THE

SOUTHERN PLANTER

DEVOTED TO

AGRICULTURE, HORTICULTURE, LIVE STOCK AND THE HOUSEHOLD.

W. ORMOND, - - - - - - PROPRIETOR.
C. KNIGHT, - - - - - - EDITOR.
C. JACKSON, - - - - - - ADVERTISING AGENT.

44th Year. NOVEMBER, 1883. No. 11.

CONTENTS:

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—THE—

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Agriculture, Horticulture, Live Stock and the Household.

Agriculture is the nursing mother of the Arts.—XENOPHON.
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T. W. ORMOND, - - - - - - - - PROPRIETOR.
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44TH YEAR. RICHMOND, NOVEMBER, 1883. No. 11.

FARMERS AND FARMING IN VIRGINIA IN THE OLDEN TIME.

No. 16.

[1. Letter from COL. RICH'D I. GAINES, of Charlotte county, on the subject of land improvement.
2. Letter from COL. HILL CARTER, of Shirley, on the subject of wheat culture.]

WARDSFORK, CHARLOTTE, December 1st, 1832.

Dear Sir,—Your communication has been received, and I am sorry that it was not in my power to have given it an immediate answer, as the most favourable time to procure leaves for manure will soon be over; for one load of leaves in the fall is worth two after they have laid on the ground for some time, alternately drenched by the rains and dried by the winds, until they have lost all their strength. Leaves, like all other vegetable substances, are valuable for manure if applied soon after they have come to perfection.

The reason so many persons have fallen out with leaves as manure, is simply because they do not know how, or when, to use them. As to your first enquiry (how do you haul them most economically), I would observe, that I prefer a cart drawn by one yoke of oxen. The load being light, one yoke is sufficient, and the cart can be turned about with more convenience

in the woods and with less injury to the young trees, which it has become important now in this country to preserve. The leaves should be raked together when wet, as you can rake and haul a much greater quantity when they are in that condition than when dry. Secondly (as to what sort of land are they best suited), I would observe, that they are much more valuable when applied to red clay soils, that are disposed to be stiff, than grey light lands, as their tendency is to make the land open and light, independent of their nutritive qualities.

They should be spread as thick as they can be covered with a two-horse plough. Thirdly, do I use them fresh or after they are decomposed in the stables, farm-yard, &c.? I use them in both ways, but think them most valuable when spread fresh on the land and turned under. I suppose I have not hauled less than 100 loads this season, and am not half done. I am at this time casting them on my next year's shift for corn. I keep before the ploughs, covering every galded or weak spot in the field. My land is improving very fast under this plan, which has been practised but for a few years. It may be proper to observe, also, that I use *gypsum* on my corn in the spring and find that it acts better on the *littered* parts of the field than any other, which you no doubt have discovered if you have used it at all. You have no doubt heard persons say that they had no faith in gypsum. But the reason was they had used it improperly some way or other; either the plaster had lost its virtue, or they had put it on a soil totally unsuited to its nature as a manure. Gypsum, having nothing more than the sulphate of lime, will not act on a coarse acid soil, for if there is more acid in the soil than will decompose the lime, it destroys its quickening and invigorating properties, and renders it entirely inefficient. I believe my experience and observation bears me out in the assertion, that plaster will not act on soils that produce the different kinds of sorrels (to-wit: sheep sorrel, horse sorrel, &c , &c.), or any other vegetation in which acid is the predominating quality.

I am glad to hear that you have abandoned that abominable profession—the law—and are now giving your time and talents to the noble, interesting and delightful pursuit of agriculture, for the more ardently you pursue it the more ample will be your pleasure and compensation. It is a profession upon which all others are but dependents, and consequently yields to its votaries more *real* satisfaction and comfort than all the other pro-

fessions combined. But this may be probably considered a digression, and I will therefore close.

Accept assurances of regard, &c.,

R. I. GAINES.

SHIRLEY, Oct. 1st, 1843.

Dear Sir,—Your letter of the 7th instant was received a few days ago, and I will with pleasure reply to your queries on the subject of agriculture, although I am confident you are much more competent to instruct me than I am to instruct you.

* * * * * In reply to your first query, viz.: "At what period of the summer were your fallows performed?" I always begin to plough the fallow field, or more properly, the clover field, as soon as we finish thrashing wheat, which is generally from the 1st to the 10th of August, and we generally finish it in five or six weeks; we take great pains in fallowing, which we do with three strong mules or horses, a driver or ploughman, and a boy to each plough; the ploughman directs the plough, the boy with a stiff forked stick clears the clover, weeds, &c., before the plough, to keep it from choking, which, with a heavy ox chain, turns every particle of vegetation under, so as to make a perfectly clean surface to sow wheat upon.

In reply to your second, "If you have observed any advantage in any precise time of ploughing your clover fields, what is the period?" I have invariably found the early fallowing, that is, the first ploughing, to make the best wheat when the land, &c., was equal, but I rarely fallow earlier than 1st of August, and never re-fallow, as I consider it decidedly injurious. fallowing as late as we do. If the land in a wet season becomes grassy, we keep the grass under with harrows, but never re-plough.

Your third query, viz.: "Is your ploughing done with 2, 3 or 4 horses, was replied to in the first answer. I will add, though, that 3 good horses or mules are competent to manage the largest size Davis plough, the plough of all others I prefer.

In reply to your fourth query, "What are the operations between fallowing and seeding, if any, and how do you get in the wheat?" The only operation between fallowing and seeding is to harrow well the land after it has laid as long as we can allow it to remain to receive the rains (and the more run together by rain the better), before seeding time. I always get in my wheat with heavy 25 (12 inches long and 1 inch square),

iron teeth harrows, and harrow most effectually, so much so that my neighbors frequently tell me I drag my land to death.

We water furrow, and drain our wheat land when it is inclined to be wet, most effectually, and roll when it is inclined to spew, though we have very little land that spews; our ditching and draining is very perfect, having learned the necessity of good ditching, &c., in reclaiming swamp land.

In reply to your fifth query, "How much wheat do you sow to the acre?" That depends upon the land and kind of wheat; on strong land we sow from 2 to 3 bushels to the acre of the large grained wheats, and from 1½ to 2 of the small grained wheats; on moderate land we sow half-bushel less to the acre.

In reply to your sixth query, "What have you found to be the safest limits for beginning and ending the seeding operation?" In our neighborhood we cannot begin with impunity earlier than the 5th of October, and we sow to very little purpose after the 25th of October. The ten best days in the whole seeding season are from the 10th to 20th of October.

In reply to your seventh query, "What proportion of your manure is used on your fallow, and what on your corn, and at what rate per acre?" I use all my manure on the clover fallow, at the rate of 25 wagon loads to the acre, and haul it out as early as I can in the spring, and top dress the clover whenever it is at all indifferent, so as to insure a good and uniform clover ley, in fact a heavy clover ley, for without a heavy clover ley we never have heavy crops of wheat in our neighbourhood. When the clover is so heavy as to require harrowing down before ploughing in, we are sure to have a good crop of wheat if we have no disaster; we then harrow the clover up one side and down the other, the way it is to be ploughed, by turning the harrow on its back, so as not to choak, and then a good ploughman, a boy with the forked stick, and an ox chain to each plough, makes clean work and easy sowing in seeding time. We generally manure about one-third of the fallow by top dressing the clover in April or May, of course manuring the most inferior parts. I formerly hauled out and ploughed in the manure while fallowing, but latterly I have prefered to top dress in the spring on the clover intended for fallow.

Your eighth query is answered in my last reply, viz.: "Is your manure on fallow used before or after ploughing?"

Your ninth query, "To what extent have you used marl or lime on the fields reaped last harvest?" The cornfield was all

marled the spring before the wheat was sown, but the fallow has never been either limed or marled. I use oyster shell lime at the rate of 100 bushels per acre, and marl of 50 per cent. of calcareous matter at the rate of 200 bushels to the acre, which replies to your tenth query.

In reply to your eleventh query, I never graze or mow the clover field intended for fallow, but graze very closely the volunteer clover field, which goes in corn the year succeeding the pasture year.

In reply to your twelfth query, I always sow a gallon of clover seed to the acre.

In reply to your thirteenth query, on the subject of gypsum. I always plaster the clover as soon as the seed comes up in the spring, at the rate of one bushel, and frequently repeat it the next year if the clover looks umpromising. Plaster of Paris and clover should always go hand in hand. If I were to be debarred from all manures except one, I should certainly stick to the gypsum.

On the subject of my present rotation of crops, I am now under the 5-field rotation, viz.:

1st.—Clover fallow wheat.
2d.—Volunteer clover, pastured.
3d.—Corn.
4th.—Cornfield wheat and oats.
5th.—Clover. { Top dressed as far as the manure goes.

We sow a third of the cornfield in oats, as it is generally too late to sow the entire cornfield in oats.

The clover fallow wheat seeds itself in clover, and makes a very good crop of clover for grazing in the next or pasture year, and the pasturing manures the land sufficiently for corn the succeeding year, and is quite an ameliorating year, owing to the deposits of dung and urine of the stock, and the top dressing with the remains of our straw, always having more than we can pass through the farm-pen, stables, &c., which we use as a top dressing on the pasture in the spring and summer while grazing it, and which strawed part always makes the best fall pasture, particularly of a very dry year, as it shades the land and makes it retain the moisture, and on that part the pasture never fails in a drought, the grass grows up through the straw.

I have now been three years in this rotation, and I am very much pleased with it; it gives a great deal of pasture, keeps

everything on the plantation fat, and is a very improving system. It is the 5.field rotation which Archer Harrison, a most excellent manager, called the "beau ideal of a system," and I prefer it to any I ever tried, and I have tried several. My crops of corn have improved under it more than my wheat crops even, for it enables me to pitch a crop of corn now without any difficulty after the year's pasturing, and formerly, when I planted after fallow wheat, instead of pasture, I could hardly ever get a crop of corn to stand at all for the insects.

It is an excellent system for wheat, corn, oats and grass; I could have fattened 100 head of hogs annually, besides my plantation stock for three years past, so abundant has been the grass under this system.

I fear I have been very diffuse and tiresome, but I have tried to be as concise as I could, to be intelligible, but I am afraid I failed in the last as well as the other.

Most respectfully your very obedient servant,

To Genl. J. H. Cocke, Bremo. HILL CARTER.

"THE AMERICAN SYSTEM OF AGRICULTURE" AND ITS ABUSES.

[For the Southern Planter.]

It cannot be gainsaid that the most characteristic feature of American Agriculture is, that it has been moving steadily westward, passing over one, two and three degrees of longitude in a decade, until now it rests at the base of the Rocky mountains. From the Report of the Public Lands Commission to Congress, lately issued, the amount of arable lands still remaining subject to occupation under the Homestead and Pre-emption Acts, is barely sufficient to meet the demand of settlers for a year or two to come. "A later estimate places it at 25 years, including railway grants and that in the hands of speculators." If this be true, the system of cultivating lands to exhaustion, below the point of remuneration, and of going West to purchase cheap virgin lands, with fresh rich soils, must soon be abandoned. The "breaking down" system must be given up and the "building up" process adopted in its place.

This "*system*" has not failed to attract the attention of enlightened European agriculturists and political economists, who have characterized it derisively as "*The American System,*" and have foreshadowed the evil consequences which must follow. In the May number of the

Princeton Review for 1882, there is an article by Francis A. Walker, late Superintendent of the Tenth Census, entitled "American Agriculture," replete with important information and suggestions to the farmers of the old States, in regard to this subject. That the exhausting of the fertility of the soils of the old States, and repairing to fresh soils in the West and South, has brought upon us the just opprobium of all European farmers, he is prepared to admit, but that this condition of things is the result of causes entirely different from any that have ever operated in European agriculture; he also explains, "Of the many causes that might be mentioned as fostering this 'system,' the tenure of land has been one of the most potent. The excellent laws for the registration of titles, and the transfer of real property in all the States, the liberal policy of the government in regard to the public lands, and the great readiness of the people to buy or to sell, to go South or to go West, as a chance of profit may appear, have largely contributed to bring about the conditions in question."

"It is approximately estimated that the cultivated area of land in the United States consists of three million eight hundred thousand farms, 60 or 70 per cent. of which are cultivated by the owners; representing also a mingling of large, medium and small properties, in which those of medium size predominate. While the characters of the men who are the cultivators of these farms are very different, north and south of the Potomac river, they are all alike animated by the same spirit, viz.: To make all that is possible out of the soil cultivated, then to sell and purchase other richer and cheaper lands in the West or South. Since 1870, the number of farms in the thirteen slave States has increased 65 per cent. [a condition which Mr. Edward Atkinson contends is peculiarly favorable "to the cultivation of cotton." Against this "breaking down" system in the old states there have been exceptional efforts made in many portions to bring out the capabilities of the soil and climate, in their adaptation to the cultivation of different crops, and great improvements have been affected. The "breaking down" system of haste and exhaustion has been made to give way to the "building up" process of "repair and balance." But far greater efforts at improvement in this direction will be required to meet the demand of the future. For it is evident that the tide of population which has flowed so steadily and so rapidly from the exhausted to the fertile soils further West, must return gradually to the Atlantic slope, from which it started. As there is a period between "Tides," called "Slack Water," so it may be with this tidal wave of population. It may remain for a time near the Rocky Mountains, whose elevated and

arid plains may be made productive by irrigation, still the reflux to the Atlantic slope is inevitable. The result of this condition of things must be a great falling off in the productions of the country, unless the "building up process of repair" in farming in the old States be speedily adopted. So far as the natural adaptation of soil and climate is concerned, no country in the world is better suited for mixed farming, and for sustaining a large population to the square mile, than that comprised in the Southern Atlantic slope. While the lands have been worked down, under a scourging system, below the point of remuneration, they possess naturally good soils, and it is a fact which may be taken as an axiom, "that soils originally good can never be exhausted," and they rapidly recover under ameliorating agencies. The incessant "breaking down" and oxidation of the elements of the soils in the old States have been definitely proportioned to the amount of the products taken from them during the many years they have been cultivated. Witness the lands in the tidewater and granite sections of Virginia, from which such immense quantities of tobacco have been taken in the course of two hundred years. This, and other products, have gone to build up and enrich the soils of the countries where they have been consumed, at the expense of the land on which they were raised. Unless some regular process of "repair" or "return" of the elements taken off in these products has been made, the soil must necessarily have been exhausted below the point of remunerative cultivation, and such we find is generally the case. While it is true that this class of lands left out of cultivation for a few years improve, from the increase of vegetable matter, the incessant oxidation and chemical changes going on in the soil, the fertility thus induced, is far from being equal to restore its lost balance. Other and more potent ameliorating agencies are required to bring out fully the capabilities of the soil and climate in their adaptations to the cultivation of any single crop, or order of crops. A rough canvass of the capabilities of lands of any district is easily made, and a process of eliminating crops hopelessly useless is soon adopted. But among the great variety cultivated in any region, justly to discriminate between the good, bad, and the very good, and to reject those which, though within the limit of tolerance, and in the long run not profitable, demands long and careful experimentation. Beyond this is the selection of varieties within the retained species of crops, in which alone may reside the possibilities of success or failure, the fortunate choice often making all the difference between profit and loss. To perform this work satisfactorily while cultivating an order of crops, requires mental enterprise,

a natural fondness for farming, and a ready apprehension, combined with persistency and a sound judgment.

In Europe, the knowledge of soils and climate on which the cultivation of the land is based, and the ameliorating systems of improvement in use, are the result of the accumulated experience of hundreds of years. An orderly succession of all the plants cultivated, and manures best adapted for the highest production of each, is recognised as absolutely necessary, in order to make a fair return to the soil for the crop taken off, and to prevent its deterioration.

In this country no such ameliorating systems have existed, except in certain portions of the old States. Where the soils have been worked down below the point of remuneration, commercial fertilizers have been resorted to as the principal means of obtaining profit and improvement. These fertilizers being highly ammoniated and nitrogenous, have been costly, and from the nature of their constitution and the condition of the soil, uncertain in their effects—one season with another—as well as too soluble and evanescent to produce permanent improvement of the land. By their promiscuous and ill-judged use on all kinds of land, great pecuniary losses have been sustained and little or no benefit to the soil has been derived. The experiments of Mr. Lawes and of Mr. Ville in continuous cropping of wheat on the same land, with so-called "complete" and highly ammoniated mixtures, undoubtedly attest the possibility of such a system. But it should be borne in mind that the "subjects" upon which these experiments have been conducted present climatic and other conditions as wide apart from those which have obtained in this country as the poles. Here, Peruvian guano and the highest priced ammoniated fertilizers have been used promiscuously on thousands of acres of land cultivated in corn, wheat and tobacco, with soils sandy, clayey, wet, dry, drained and undrained, hilly, level, rough, rocky, cloddy, in tilth and out of tilth, regardless of everything but the *hope* of obtaining a small profit after paying for the fertilizers. How this *hope* has been realized and the truth of the experiment attested in a large majority of cases, the experience of many Virginia farmers will unfold. On the other hand, we believe that with an orderly system of crops, thorough drainage and cultivation, and a due regard to the nature and condition of the soil, highly ammoniated fertilizers may be used with profit and improvement to the land, one season with another. In mixed farming they may be used to supplement domestic manures, also, with great benefit. But as the *principal means* of improving worn out lands on a large scale, no system has proved more costly and disastrous. According to Mr.

Lawes, *seasons*, rather than the condition of the soils, have been the chief factor in his results with nitrogenous fertilizers; but his soils are naturally so good, and their physical condition so perfect, that no fair comparison can be made with the conditions that obtain in this country.

As a matter of fact, whether the time of the exhaustion of the lands in the United States, under "the American System," be in the near, or the remote future; whether the reflux of population from the Rocky Mountains to the Atlantic slope, be in this or the next century, it is certain that the lands of the West, cultivated under this system, must deteriorate by degrees, and their products decrease from year to year, thereby affecting the products of the whole country to such an extent as to make it of the greatest importance, that the worn-out lands of the States on the Atlantic slope should be systematically improved, and cultivated with a certainty of an increase in value and profit. As to the system to be adopted, a knowledge of the soil and climate, adaptation of crops and experience in cultivation, in every locality, must determine. This will be greatly aided by a judicious system of experiments, in testing new and promising subjects, taking care not to be discouraged too soon by accidents or failures; nor yet too swift, in drawing inferences from successes or failures. Any system adopted, to be worth anything, will task the intellectual powers of the man who executes it, and call for the closest observation and attention. The bed rock, the soil, the drainage, the exposure, and the natural vegetation, all require careful study in any system of improvement. Special varieties among all the species of plants cultivated call for special attention and observation, as well as new species for domestic uses and the improvement of the land. Since the settlement of Jamestown, and within the region east of the Blue Ridge, all the cereal, grass, root, leguminoid and textile plants (except sorghum), now in the country, have been cultivated, as well as tobacco, cotton and rice, more or less successfully. According to Prof. Brewer, those tried and rejected from agriculture in the New England States were hemp, indigo, rice, cotton, madder, millet, spelt, lentils and lucerne. But it is not so much a necessity to have new species or kinds of plants as it is to exercise greater care in the selection of the varieties in use. These are important incidents, but the main point is the proper system of improvement of the land to be adopted. To improve worn-out land, the first thing to be borne in mind is, that the land must be in proper physical condition, and the process of "giving" must for sometime over-balance, and always balance, the process of "taking away." "Repair" of some kind must always follow "waste" in any kind of crop. These indi-

cations may be fulfilled best by thorough drainage, thorough plowing; the use of lime, carbonate and phosphate, on a liberal scale; a rotation of crops, in which the leguminoid and other green fallow crops come in regularly, as improvers; the keeping a fair proportion of stock, the free use of domestic manures, and the supplemental use of artificial or commercial fertilizers with judicious care. The permanent improvement of the lands in every section of this State will be more rapid under the foregoing system than by any that can be adopted with commercial fertilizers alone. The theory as well as the practice on which this system is based, is one of "*mixed farming*" and stock raising, by which one crop is made to supplement as far as possible the loss entailed by another, and domestic manures and commercial fertilizers are made to supplement the losses entailed by each in rotation. But objection is made that this is a slow and tedious process, entirely inapplicable to the improvement of lands on a large scale. Time will not be taken to expose the falsity of this objection.

Of the many systems recommended for the improvement of worn-out lands on a large scale, by means of *commercial fertilizers, the one first made known by the late lamented and talented Dr. St. Julien Ravenel, of Charleston, S. C., is based upon the soundest principles of natural science.* It rests in the assumption that a large proportion of wornout land is in the condition of a *caput mortuum* or "dead-head," incapable of producing any but the lowest kinds of vegetation, a condition which may be likened to a ledge of granite rocks gradually disintegrating into a soil, through the agency of rain-water charged with carbonic acid, and developing as its first forms of vegetation the mosses and lichens that creep upon its surface, gradually preparing the way by decay for the development of other and higher plants. Such is nature's plan in the original formation of soils—*first*, the disintegration of the rock; *second*, the growth and decay of the simplest forms of vegetation, and thence on to higher forms, until humous or mould is accumulated in sufficient quantity to constitute what is known as a *fruitful soil*, a soil possessing all the essential elements of plant food, as well as the physical conditions necessary for the development of the highest plants. It was upon this plan of Nature that Dr. Ravenel proceeded to improve the exhausted sandy lands in the vicinity of Charleston, a plan now extensively adopted throughout the Carolinas, with the best results. Recognizing the fact that these soils were deprived by long cultivation in cotton of all the available organic and inorganic elements of plant food, with nothing left but the insoluble minerals, constituting the soil, and the immediate necessity of supplying soluble elements to produce plants

of any kind, he incorporated with the soil a compound which he called "*ash elements*," and sowed the land with leguminous seeds (vetches and peas), these plants being specially adapted to sandy lands, as well as to the special object he had in view. This plan, I have said, is founded on the principle that the soil is a *caput mortuum*, and that you must put into it, in the most economical forms, all the elements of which plants consist. The inorganic elements (potash, soda, lime, magnesia and phosphoric acid) are furnished in the compound known as "ash elements" in a very finely comminuted condition; while the organic elements (carbon, hydrogen, oxygen and nitrogen) must be furnished from the air and subsoil by means of the leguminous plants growing on and incorporated with the soil. Being deep and gross feeders, leguminous plants take from the subsoil and the atmosphere a large proportion of their constituent elements, a capacity recognized as based upon the fact that different kinds of plants have different capacities for making use of the stores of plant food that the soil and atmosphere contain. One of the most important of these plant-food elements is *nitrogen*, which is also one of the most costly. Now, however much we may be in the dark as to how this is done, experience teaches that leguminous crops—like clover, peas, vetches, &c.—gather a supply of nitrogen where cereal crops will not thrive for the want of it; "and this in face of the fact that leguminous plants contain a great deal of nitrogen and cereals relatively little."

The important practical results of this process may be estimated by considering the following facts, which I quote from a former article, published on the same subject:

1. The application of the compound known as "ash elements," furnishes the exhausted soil with an immediate supply of *inorganic food elements in a soluble form* for the use of the plant.

2. The leguminoid plants grown upon the soil thus prepared, take from the soil below, as far as their roots extend, and from the air above in which their leaves are spread, nearly all the elements useful to crops, along with nitrogen, and return them to the soil. In plowing in the whole plant as it stands, we restore to the *surface soil* the elements previously out of the reach of the cereal plant.

3. Vegetable matter allowed to decay in the open air undergoes a loss, both of organic and inorganic matter. Submitted to fermentation, as in the barnyard, there is also a large loss. Even passed through animals as food it undergoes loss. But in green crops, plowed in, it is decomposed without loss. In no other form can the same crops convey

to the soil an equal amount of enriching matter as that of green leaves and stems of plants, grown on the land and plowed into the soil.

4. The decomposition of green crops in the soil is very rapid, and they are especially advantageous, in that both the organic and inorganic elements of plant-food are accumulated in that portion of the *surface soil most readily in reach of the fibrous roots of cereal and graminaceous plants.*

5. Experience teaches that there is scarcely any soil worth cultivating that may not be improved by this process (based, as I have said, upon the principle that certain plants draw a considerable part of their sustenance from the atmosphere, and contain in their substance not only all they have drawn from the soil, but a large part of what they have taken from the air. The plowing in of these plants adds to the soil, necessarily, more than was taken from it, and makes it richer in all the elements of plant-food).

6. The repetition of this process by means of an orderly system of rotation of crops is not only the best means of restoring worn-out lands, but of keeping them and carrying them up to the highest state of fertility.

On the sandy soils of the South Carolina coast the lamented Ravenel, some ten or twelve years ago, succeeded in producing the most astonishing results by the use of his "ash element" and phosphates with the native vetch or partridge pea, and was the first to illustrate, practically, this means of restoring fertility to worn-out lands—a means by which all the ash elements of which cereal plants are composed are applied to the soil in the most economical form, while the atmosphere is made to supply nitrogen and carbon through the instrumentality of leguminous plants.

In 1874–75, long before I had seen or heard of Dr. Ravenel's experiments, acting upon the same principle, I reclaimed land in a condition even worse than that operated on by him, covering on area of nearly five acres, denuded of its surface-soil to make an adjacent railway embankment from eighteen inches to over three feet. The greater portion of it was covered with water during the winter, and was utterly devoid of vegetation in summer. After thorough draining, the process pursued was, thorough plowing, the application of eighty bushels of gas-house lime to the acre and the sowing of peas and plowing them in, with from 200 to 300 pounds of a mixture of plaster, salt and ashes [from Stewart & Palmer's Saltworks] and from 100 to 200 pounds of fine ground Charleston phosphate. In the spring of 1878 the land was cultivated in corn, followed by wheat, yielding eighteen bushels

per acre, and a stand of clover and grass which has averaged over a ton and a-half of hay per acre every year since. I mention this to show how even the most impracticable kind of land may be permanently improved by this system. In the Tidewater sections of the Atlantic slope, where marl can be obtained, it is a sin and a shame that it is not used along with fine ground phosphates, peas and clover to a greater extent. Where the marl cannot be obtained, the ash element, or a mixture of the fine ground phosphate and kainite with peas, will be found the cheapest and best substitutes. The original formula of the ash element used by Dr. Ravenel was: Fine ground phosphate, 800 pounds; marl, 600 pounds; kainite, 400 pounds; acid phosphate, 200 pounds; and this produced the remarkable results to which I have alluded. Recent improvements in pulverizing the phosphate rock into an impalpable powder, called "*floats*," must add greatly to its efficient and more speedy action in the soil, and (in my opinion) do away with the necessity of manufacturing superphosphate and the expense of sulphuric acid. All the experiments I have conducted indicate that worn-out lands treated in this system can be improved cheaper and more permanently than by any other, the "intensive system" to the contrary notwithstanding. Sir J. B. Lawes, the greatest advocate of the use of concentrated nitrogenous fertilizers, in a letter to the *Country Gentleman*, April 13th, 1882, says: "One fact is perfectly clear, that whatever may be the source of the nitrogen in clover, the plant furnishes that substance in the cheapest possible manner, and so long as good crops of clover can be obtained, the farmer need not have recourse to any costly artificial compound for its supply." What he says in regard to clover is equally applicable to peas. But, says the farmer, "I cannot get clover to grow on my land." I answer, who ever saw clover fail to grow on a calcareous soil, other things being equal? Then, use lime in some form, and in as large quantities as possible, along with peas; turn the peas in, and sow wheat and clover seed and plaster the next spring without grazing. The experiments that I have made indicate that good crops of clover can be obtained more cheaply by the free use of the fine ground Charleston phosphates mixed with kainite, or used in the form of ash element, than by any other fertilizer. I admit that, to make full crops of wheat on ordinary land, we must have a certain amount of available nitrogen in the fertilizer, but for corn, clover and grasses and the permanent improvement of the land, the highly ammoniated fertilizers may be dispensed with.

What our farmers need is an orderly and systematic method of using the Charleston fine ground phosphates with kainite, mixed with their

domestic manures and other materials, all through the year, to be applied to their crops in the spring and fall. To the farmers of the Tidewater section, the use of the fine ground phosphates, along with composts of marl, muck and vegetable matters, cannot fail to be highly beneficial in securing crops of clover and in securing fertility to the soil. In other sections, the phosphates and kainite, used in composts and with peas, will effect the same result used in larger quantities. We have found no substitute as yet for the cotton seed used by our Southern neighbors in composts. Well-rotted stable manure is good enough if it can be obtained in sufficient quantity. The systematic use of these composts, made with fine ground phosphates, kainite and cotton seed, is largely practiced in North and South Carolina in the profitable cultivation of lands hitherto regarded as too poor to work in corn and cotton, and I am fully persuaded that the same process will work as well with us.

Let us go to work, then, with order and system, to improve our lands, to diversify our crops, to give more care to stock, the saving of manures and the economical use of fertilizers with green crops, so as to make up for the waving fertility of the West, to keep our people at home, to build up the waste places in the land, and in restoring fertility, to make it the finest country in the world for the well-being and comfort of mankind. JNO. R. PAGE.

University of Virginia, Sept. 24th, 1883.

HOW TO STOP A NEWSPAPER.

The following from one of our exchanges so fully and clearly expresses our views on the subject, that we copy it without comment: "You have an undoubted right to stop a newspaper when you feel disposed, upon payment of all arrearages. Do not hesitate to do so on account of 'tenderness' for the editor. Don't you suppose he would quit buying sugar of you, or meat or clothing, dry goods, etc., if he thought he was not getting the worth of his money, and why should you not exercise the same privilege with him? And when you discontinue a paper, do so manfully. Don't be so spiteful as to throw it back to the postmaster with a contemptuous 'I don't want it any longer!' and have refused written on the margin and have the paper returned to the editor. No gentleman ever stopped it in that way, no matter if his head is covered with gray hairs, that should be honorable. If you do not longer wish to receive a newspaper, write a note to the editor, like a man, saying so—and be sure that arrearages are paid. This is the way to stop a newspaper."—*Carlisle (Pa.) Herald.*

THE BEST FENCE—A SUGGESTION.

[For the Southern Planter.]

The best fence for the farmer is hard to decide upon, as localities and the abundance and convenience of timber vary so much. Where timber is scarce and not easily accessible, no doubt the "barbed wire" fence is, in the end, the cheapest. I have lately seen on a farm in Henrico, owned by Mr. Blackur, of Amelia Co., a fence of this kind with *one* wire on cedar posts, and a heart pine plank at the top. This seems sufficient to turn all stock away but hogs, and the plank being prominent will prevent animals from wounding themselves against the wire. Where hogs have to be guarded against, or kept in the field, then two planks at the bottom must be used. This fence is more secure and more durable than any other, and will turn not only stock, but *fox hunters*, who sometimes play the mischief with fences. Besides, it is secure against fires, and being entirely straight, takes up less room than rail fences. I must beg Mr. Blackur, if this meets his eye, that he will give us the cost of his fence.

The suggestion I have to make is, that young farmers, or old ones if they are willing to work for *posterity*,* should plant out every eight feet young cedars or locusts, to which hereafter to attach the wires. This will ultimately diminish costs, and make a very permanent fence—the cedar for lower Virginia and the locust for either section. The latter can easily be raised from the seed, and is a rapid growth. Neither tree "draws" the land to any extent—in fact, the locust, like the walnut, seems to improve it.

I will add to the above that the osage orange draws the land so badly, and its annual trimming is so troublesome and expensive, that I do not consider that it makes a desirable enclosure.

I intended to put my name to the paper on the subject of "Improvement of Lands in Eastern Virginia," which appeared in the October number of the *Planter*, that I might not seem to avoid responsibility for any of the statements it contained, but forgot to do so. An *error* of some importance was made in the article, which might lead some one to sow clover as late as 15th October. I am made to say, "but

*We hope our readers are not like an old acquaintance of the writers, who, when his father-in-law was urging him to set out some trees, replied, he would never live to get the benefit of them; he was then told he should do it for the sake of posterity; he rejoined, posterity never did anything for him, and he was not going to bother himself about posterity.

with oats (*i. e.* clover) may be seeded as late as 15th October." It should read *Winter* oats may be seeded, &c.

TH. POLLARD.

Henrico, Va.

NARROW HEELS IN HORSES.

[For the Southern Planter.]

To prevent and cure narrow heels in horses and mules, which is produced by bad shoeing, *trim* the hoof sufficiently (*not too much*), so as to fit properly the shoe to the hoof, and let the shoe be large enough to come out well to the outer rim of the hoof. Never burn the hoof to fit the shoe. After fitting the shoe as above, drive in the two nails nearest the toe of the hoof. These two front nails place the shoe exactly where needed; next drive in one nail on each side next to the two already at the toe; next drive in the fourth and fifth; and lastly, drive in the two next to the heel. By this means the third and fourth nails open or expand the foot a little, the fifth and sixth nails expand it still more, and the last two, which are the seventh and eighth nails, complete the expansion of the hoof to the extent desired, and give the relief from cramped heels in every instance. Try it for humanity's sake.

GEO. WATT.

THE PROPER FERTILIZER FOR WHEAT.

[For the Southern Planter.]

On the 15th day of June last, my friend W. H. Benton, of Loudoun Co., came to my house (we started to cut wheat that day). One of my neighbors accompanied him from the courthouse to my house. We pursuaded him to accompany him home that evening; he brought him back next morning. His visit enabled him to see my neighbor's crop of wheat and the one adjoining him; he also brought him through my nearest neighbor's place, where he saw the largest crop of wheat, at least in this county. He remarked at my house, that he had seen four crops of wheat since he had been here, better than anything he had seen in his county this season. *How will that do for Amelia lands as wheat lands?*

One crop consisted of about one-fourth tobacco land, which, however, had but one crop of tobacco grown on it, and therefore can scarcely be called tobacco, "lot land." One-fourth corn land and the balance fallow land, on ten acres of which the present was the third

crop of wheat, successively, namely, in 1881, 1882 and 1883. On the corn land we used on the corn at planting 300 pounds per acre of Charleston rock, and perhaps 200 pounds more per acre at laying by time and wheat seeding, which of course was on the poorest parts of the field; this was all the fertilizer used on the corn land.

The tobacco lot received all our farm-pen manure, 300 or 400 pounds of rock per acre, and chemicals and other ammoniated fertilizers to give the tobacco a start.

One of the fallow lots received 300 pounds of rock at the seeding; this lot, however, was an afterthought, and not fallowed until last week of September. The other fallow lot, on which this was the third successive wheat crop, received on its very best portion 300 pounds per acre of Stearns' Wheat Fertilizer; one land Stearns' fertilizer equal to 300 pounds of Charleston rock in cost; one land Peruvian guano equal in cost to 300 pounds Charleston rock, the balance of the lot 300 pounds per acre of Charleston rock. There was, however, only three bags of Stearns' fertilizer used.

The entire cost of fertilizer used on the wheat at seeding was as follows:

4 tons of Charleston rock, at $18 per ton	$ 72 00
3 bags of Stearns' Wheat Fertilizer	12 00
100 pounds of Peruvian Guano	4 00
Total	$ 88 00

It ought to be stated that the Hessian fly injured our crop very seriously; in some places to the extent of three-fourths of the crop.

Mr. Dunn included in his seeding three of his *regular tobacco lots*, on one of which he grew a crop of tobacco last year, and applied his farm-pen manure and a good application of fertilizer. The other two lots had rested in clover. He used $250 worth of fertilizers at wheat seeding. Some Eureka, some Orient, some an Acid Phosphate compound, and some Charleston rock compound. He seeded 97 bushels and made 1500 bushels.

Mr. John Wingo had his tobacco lot in wheat, which was manured and fertilized for the tobacco as usual, and he used four tons of Stearns' Wheat Fertilizer at wheat seeding, at a cost of $170. He seeded 47 bushels and made about 600 bushels.

Mr. Jefferson had his tobacco lot in wheat, which was manured and fertilized as is his usual wont, and used four tons of Stearns' Wheat Fertilizer at wheat seeding, at a cost of $165. He seeded 120 bushels and made 1100 bushels.

Mr. J. A. Wallace had a good portion of his best tobacco lots in

wheat, which, though not in tobacco last year, had been treated most liberally to bone meal whenever cropped for years, and had responded very satisfactorily in tobacco, wheat, clover and ensilage whenever planted. He used four tons of Western Bone, at a cost of $150. He seeded 47 bushels of wheat and made 611.

Mr. P. B. Crowder had a large crop of tobacco last year (some 80,000 hills), which was manured and fertilized as was his usual wont, and he used four or five tons of Western Bone, at a cost of $160, at wheat seeding. He made 650 bushels of wheat from 47 seeded.

A comparison of the cost of fertilizers used at wheat seeding, and result in wheat, is as follows:

Mr. Dunn	seeded	97	bushels,	used	$250	fertilizer,	made	1500	bushels.
Mr. Wingo	"	47	"	"	170	"	"	600	"
Mr. Jefferson	"	120	"	"	165	"	"	1100	"
Mr. J. A. Wallace	"	47	"	"	150	"	"	611	"
Mr. P. B. Crowder		47	"	"	160	"	"	650	"
Mr. Stacy	"	46	"	"	88	"	"	650	"

Let those interested judge for themselves.

G. B. Stacy.

[This is an interesting statement of facts connected with the culture of wheat in one neighborhood in Amelia county—this State. We only regret that the author did not state the number of acres in each crop, so that the yield *per acre* could be seen as well as the yield per bushel of seed.

We have endeavored, through the pages of the *Planter*, to enforce the importance of *high culture*, which means that the land should be well fertilized, if its condition demands it; that the land shall be thoroughly drained, broken and pulverized; that the seed shall be carefully selected and cleaned, and not more than a bushel to the acre used, which should be evenly distributed and neatly covered by two harrowings, if sown broadcast. If the drill is used, which is best, the same preparation is required, and should precede it. With proper care, we think it easy to make an average of twenty bushels to the acre, or twenty bushels for one sown.—Ed. S. P.]

How much is skimmed milk worth for feeding purposes? This is an important question in butter-making districts, and quite often the possible use of skimmed milk determines the profit or loss of the dairy. With young, growing pigs, an addition of the skimmed milk from a cow in full flow of milk for each pig will keep them growing with very little corn. It is quite as well, however, to have two or three pigs to every cow, and supplement the feed with a greater proportion of grain. For the amount that they will eat no kind of stock will make so profitable use of milk as laying hens.

There are complaints in many quarters that wet weather, when potatoes were rotting, has caused a general prevalence of rot. If the tubers are at all affected, they should be dug early and stored in a cool place.

THE FOOD OF THE WORLD

The food of the world must be made and furnished when needed. The farmer must feed all from the sand grains, the rain, the dew, the heat, the subtle elements of plant-food in his keeping, by aid of nature's magical alchemy. He builds wiser than he knows. He makes teeming crops and bounteous harvests. The hills and vales are green with grass or yellow with grain. The tasseled corn, the long rows of vegetables, the varied orchard products, are poured with lavish plenty from Autumn's cornucopia. The barns and granaries are filled. The elevators crowded to bursting. Transportation is taxed to its utmost. Streets are filled with market wagons, stores are filled with food products and necessities. Thousands are busy handling and every family is supplied and every mouth filled. From the sunny south, the far west, the lakes, the isles of the ocean, the other continents come the multitudinous products of the field and flock the orchard and vineyard, demand causing supply and supply following demand. The farmer not only feeds all but furnishes the raw material to clothe all, whether it be the snowy cotton of the Carolinas, the warm wools of the west or the silk of the eastern empires. Millions of spindles grow hot with activity, millions of operatives are at work, the looms turn out their beautiful fabrics and the bustling industry of manufacture is supplied. Demand calls for still more and better clothing and the farmer feeds all. Great cities are built up, vast water powers utilized, homes for tens of thousands go up year by year, capital accumulates and the farmer digs it nearly all from the brown soil. The furnaces are aglow, the quarry yields its wealth of stone, of slate, of lime. The mine gives forth the metal, and the farmer feeds all.

The fisherman, the herdsman, the hunter, are but small allies. They help somewhat, but the great burden of feeding the world falls on the farmer. New areas with long accumulated fertility are sought year by year for wheat growing. For scores of years the world's bread will be produced from the great natural wheat lands. There are vast areas of such undeveloped in the far west and northwest, on the Pacific slope and in the British possessions north of the United States. When these fail, away in the future, the rich lands of South America now only used for natural pasturage may be layed under contribution. The world demands cheap bread. In order to be cheap it must be abundant. Some substitute for wheat may be found or utilized. Science and ingenuity develop wonders. Let no one eat less or tremble in fear of famine. The world will be fed. Famine in civilized countries are things of the past. Seed time and harvest shall not fail. Plenty and scarcity may alternate, drouth and excessive rainfall be experienced, cold and heat endured, but famine grim and gaunt can never sweep civilized countries as in olden times. Cheap and rapid transportation places products of distant climes wherever needed. Steam works little less than miracles. Ships trace every line of commerce. Iron rails span all empires and well nigh encircle the earth with great trunk lines. The tel-

egraph encircles the globe with iron nerves, and the telephone expedites exchange. The wheels of a busy commerce turn with the pressure of exchange, and the farmer produces the food of the world.

But food production is not the only function the farmer has. He is an important member in the forces that make up the motor of the social and industrial and even the educational fabric. He has duties beyond digging the earth for food and the time is at hand when his mind is open to the fact. Our agricultural masses are emerging slowly but surely from the background and gradually taking hold of the great questions of the nation. They are not so easily deceived as formerly. The smooth tongue of the politician does not so easily sway. The sophistry of the designing is seen through more and more. There is a progress towards better things. Schools and the press are learning the rudiments of agriculture in order to teach. The time of improvement and better ways is at hand. The tendency is upward. The farmer feels the force of his undeveloped powers struggling within him. He rises to seek the light and lives to some nobler thoughts and objects than in the past.—J. W. Lang *in Maine Farmer.*

ALDER BROOK ; OR, THREE ACRE FARM.

"Sam, you do not mean that you,re going to leave your place at Holcoms' to try and get a living on two or three acres of poor land your father left?"

"Yes, Jim, that's just what I have made up my mind to do."

"Well you may as well speak for quarters at the poor farm, for it is there you'll fetch up in a few years if you stick to your folly. Just think on't; here you're getting thirty-five dollars a month. When will you ever see a quarter part of that off of a three acre farm? Now, Sam, just you take an honest look ahead before you leap into such a blank prospect as that."

"Well, Jim, I have been studing the thing over for some time past. I have been at Holcom's three years and have done my level best. I have not lost a fortnight in the three years. Early and late I have been at my post, you know your self, and I have not been extravagant, and how much do you suppose I have to show for it?"

"Well, I don't suppose it is a great fortune. It costs us something for board and clothes I know here in the village more than it would on a farm; then there are expenses we can't account for, so the money gets away. I know it does with me."

I have managed to save just a hundred dollars a year."

"You've done well, Sam. I can't show even that much; but how much do you expect to show at the end of three year's farming on a three acre farm? You'd better think of that. Then there's another thing to be thought of. I've always thought you'd win in the race between you and the young 'squire for the parson's daughter, but I shall give up all hope if you persist in your folly."

"Sorry, Jim, for your sake; but what must be must be. Time'll tell. We generally know who's elected after election. The farm is a fixed fact with me."

"Well old boy, you have my heartfelt sympathies. Good-by."

"Success to you both in business and in love, Jim."

"The skies are bright."

With a shake of the hands the two old friends parted. Old they were in one sense, as they had been associates from childhood. They were about the same age, btween twenty-five and twenty-seven.

James Grayford was the son of a village doctor, and Samuel Dodge the son of the village carpenter in their native town. Sam, as his companion called him, as did everybody else—as he and everybody called his companion Jim—was the man of all work at Holcom's who was trader, public house keeper and post-master, and almost everything else as occasion required in the little country town where he lived. Singletree, the name of the village, lay mostly in a little fertile valley on a small stream known then as Alder Brook.

Sam's father was dead and his mother depended mostly on him and the scanty products of the farm, with one cow and a few hens and a pig. The three-acre farm touched the brook for a short space, but broadened as it extended to a rather rocky hillside. The location was a pleasant one and looked across the little valley to the villiage church and the parsonage near it.

There were older heads than Jim's that thought Sam was missing it "mazingly." Some said if he'd taken a notion to go west and take a farm of some size, as he might with the money he had, he would have shown some sense and enterprise. The young Squire seemed to take courage at his rival's folly, and some said it was "all day" with Sam, meaning rather all night or darkness to his hopes.

But somehow after all, things seemed to remain *in statu quo*, or in the old fix. Celia Dexter was young and her mother was a prudent woman. She thought seventeen was a little early for Celia to have any pronounced preference among the young gentlemen of the town, and chose to have her civil and in a sense, social and free with all. She may have had her preference and Celia herself may, but the scales after all were held pretty evenly. It seemed as though but a little might make this or that side kick the beam.

"Well Sam, you persist in leaving me then," said Holcoms, as Sam was about to leave at the end of the week—at which his notice transpired.

"Yes, sir," said Sam.

"I am sorry to have you go," said Holcoms. "Haven't I always used you well Sam?"

"Always," said Sam, with a rising in his throat. "I have never had the least cause of complaint."

"And I never expect to get another man to take your place. You insist on going to farming?"

"Yes, sir," said Sam.

"Well. There's old Bill; he's old to be sure; but there's a number

of years good work in him on a farm, and I don't like to have him fall into new hands to handle, and if you'll take him I'll give him to you.

"Give him to me!" repeated Sam with much surprise and evident joy. "Yes, he's yours, and now Sam, if you ever get into a tight place and need a little help, come to me. Goodby boy! There's old Bill with his harness on; horse and harness are yours. I've horses enough without him."

Somehow Sam couldn't even express his thanks, but he brushed a tear from his eyes as Holcoms released his hand and he went and took old Bill by the bit and led him away. This was a prize he had not looked for. The manner of the gift and the consciousness that he may have earned it, so often having worked, when most hired hands would have refused, in no manner interfered with his self-respect. He had anticipated some difficulty in finding a horse to suit him and old Bill was just the horse he wanted.

It was the last day of September, 1878, that Sam left Holcoms. His plans were already matured. He had made arrangements with the agent of one of the largest and best nurseries in the country, situated in Geneva, N. Y., for 500 currant bushes and the same number of raspberries and blackberry plants. His mother had had remarkable success with her poultry that summer, and this gave Sam encouragement greatly to enlarge this branch of his three-acre farm operations.

For a year Sam worked early and late and there was need of it, for in addition to his other small fruits, the following spring he had ordered 1000 strawberry plants. The poultry yard was the greatest source of income the first year, and owing to his unremitted care both of the fowls and of the fertilizer they produced, Sam found his purse kept tolerably well replenished and his means of improving his acres more than half provided for. The second year Sam had more than he could do and gave employment to a small army of boys and girls who were glad of the chance to make a little spare change in picking and roxing berries, and old Bill made regular trips every day to the city, ten miles distant, to market the products of the three-acre farm.

The second year Sam added three acres more to his farm, and a new member to his family in the charming Celia Dexter, as his wife, and the additions to both farm and household still continue.

Mass. Plowman.

The Way Mrs. Wilkins Went to the State Fair.

It was a great day in the life of Mrs. Wilkins when she started in company with her husband to visit the State Fair held a hundred miles away. A farmer's wife for a score of years, the opportunities for pleasure seeking of any kind had not been very numerous, but now as her children were old and trusty enough to be left for a short time, they were going to see a little of the world. She had scandalized her growing up girls by wearing simply a nice black alapaca instead of her new silk dress, "I am going to see and not to be seen," she declared to them,

"and I am not going to risk spoiling my very best clothes pushing through a crowd, I only care to look respectable enough not to attract attention." Neither were the girls ashamed of her as they remarked her tidy appearance and animated looks, as she drove away to the depot some miles distant. Reaching the city and being refreshed by a good dinner she and her husband repaired to the fair ground. On entering, Farmer Wilkins took one gallant tramp around the grounds with his wife, and glanced at the cattle, sheep, swine and poultry, passed hastily through the agricultural and floral halls, when Mrs. Wilkins came to a stand, "See here, Henry," said she, "this won't do for either of us. We both want to see and enjoy all of this show that we can and you would enjoy best seeing things that I don't care for, so let us appoint a place to meet at five or six o'clock and till then we can both look up what we most wish to see." The arrangement was made with business like promptness and Mr. Wilkins started off to inspect the machinery, and find some male acquaintance with which to discuss the fine exhibition of stock, two things in which he was especially interested. Mrs. Wilkins, contrary to what perhaps might have been expected of her, started for Fine Arts Hall. "I can see rag carpets and canned fruits put in brine and such things enough at our Country Fairs, and big pumkins and squashes too; but such an array of pictures I may never have the chance to see again in my life, and I'll pay my respects to them first." She was glad as she slowly pushed her way through the crowd that she had not a party of three or four friends to keep hold of, and to distract her attention from sight seeing, in her fear of losing hold of them. She gave herself up entirely to the enjoyment of the pictnres which had been brought by public spirited inhabitants of the city from their splendid homes, to add to the attractions of the exhibition. Rare and costly nany of them were, some of them a hundred or two years old.

Then she went to the Horticultural Hall where plants and flowers filled every inch of space, and went slowly through noting everything around her. She had never seen half the varieties before and, perhaps, had never even heard the names of some of them, but none the less did her heart warm at the sight of nature's loveliness.

At the appointed hour she met her husband and they wisely decided to take things coolly and get rested for the morrow. Early morning saw them again on the grounds taking a leisurely trip around the grounds getting a general idea of the whole, then they seperated to follow their different inclinations. Mrs. Wilkins took her way once more through the Fine Arts Hall, and sgain and again through the day she returned to view the pictures over anew, and found that each time she noticed something new about them. If her chances for observation had been few, she had a cultivated taste that quickly learned how to appreciate anything new, that had merit about it. By way of variety when she became tired she would seat herself where she had a view of the motley crowd and amuse herself by noting the different countenances, and styles of dress; the handsome, the homely, the grave, the gaudily dressed, all came in for a share of her attention.

She made one mental comment on the ladies in the crowd, and that was that those who were plainly dressed looked better after a half day's struggle with the crowd than those who had more costly and elaborate toilets.

In the afternoon Mr. Wilkins took her about the city to see the different sights the town afforded, availing themselves of the use of the street cars liberally enough, so that every change was a refreshment. At the close of the third day they reached home again.

"I don't feel a bit tired," said Mrs. Wilkins, as she laid aside her bommet, "I feel as if for three days I had been out of the body, I have seen so many things that were new, and have such a collection of lovely pictures in my memory to call up in future; if every one has enjoyed the fair as I have, the money laid out on it has been well spent."

The good sense with which she had managed her trip, as well as the rarity of her excursions, had something to do with her pleasure in it probably, but the moral of it is, that when such exhibitions reach plain citizens in the way they did Mr. and Mrs. Wilkins, the good they accomplish reaches far beyond the merely material benefits which are apparently the most important things aimed at.—*B. C. D. in Rural New Yorker.*

NIGGER MIGHTY HAPPY.

BY J. A. MACON.

Hog start a-runnin' when de overseer callin';
Whipperwill holler when de jew-draps fallin';
Duck keep a quackin' when de hard rain po'in',
Crows flock togedder when de young corn growin';
Pig gwine to squeal when de milk-maid churnin';
Nigger mighty happy when de blackberries turnin'!
Squirrel go to jumpin' when de scaly bark's comin';
Bee-martin sail when de honey-bee hummin';
Lean horse nicker when de punkin vine spreadin';
Rabbit back his ear when de cabbage stalk headin';
Rooster start a crowin' when de broad day breakin';
Nigger mighty happy when de hoe cake bakin';
Big fish flutter when he done cotch de cricket;
Bullfrog lively when he singin' in de thicket;
Mule git slicker when de plantin' time over;
Colt mighty gaily when you turn him in de clover;
And it come mighty happy to de nigger-man nater.
When he soppin' in de gravy wid a big yam tater!
Black snake waitin' while de ole hen hatchin';
Sparrer-hawk lookin' while de little chicken scratchin';
Big owl jolly when de little bird singin';
'Pussum gwine to clam whar de ripe simmon swingin';
Nigger mighty happy, ef he ain't wuf a dollar,
When he startin' out co'tin' wid a tall stan'in' collar.

—*The Century, N. Y.*

FISH PONDS FOR FARMS.

Having indicated the possibility of farms having a pond for fishes and enjoying a dish of sweet fish at times, we want to show how this can be done at little expense and labor. Let us see how they can be improved and stocked: We stated in a previous letter that an acre of water can be made to produce more than an acre of land. A farmer writing to an Ohio paper says:

"We write from practical experience in this matter, having in earlier days caught many a nice string of fish in a pond that was formerly a swamp. During one day in August the owner, with two of his boys, went in it with a plough, road scraper, and shovels, and in a short time had a pond of nearly an acre in extent. This he stocked with fish common to the sluggish streams of the neighborhood, and procured others at some distance from the farm. For years thereafter it proved to be the best acre on the farm."

While we do not advocate so cheaply made a pond as this mainly on the principle that "that which costs nothing is of no value," still, this is better than no pond, and if a few trees and flowering shrubs are planted around it would make a pleasant, shady spot in the summer heat. If some aquatic plants are put in the bottom of the pond, they will furnish feed for fish, and produce flowers on the surface. Your unsightly swamp or slough becomes a picture as well as a means of enjoyment and profit. Where springs exist, as described in my previous letter, some means must be provided to carry off the surplus water, especially if the lower portion of the pond is a deep ditch or slough. Let this be gradually shaped to an oval form, leaving about six feet wide to form your dam. If the head of your water will not exceed five feet, a simple dam and embankment of clayey earth will be sufficient. Let the dam be solidly constructed by putting a tree across for the breastwork. Square up this piece of timber, and let it be of sufficient length to be embedded into the earth some feet on each side of the ditch or dyke. For the dam get good solid boards, set upright edge to edge. If hardwood planks can be obtained, elm or alder wood, so much the better will your dam be built. We should advise a bottom stringer to be put in; a tree squared up will form the best support. Inside this stringer dig a ditch two feet deep, and let the planks come to the bottom of this trench; puddle and ram them into position with clay and make a firm bottom. Build up an inclined slope of clay and stones. As you ascend, puddle and beat the clay into position against the planks. Get your road scrapers to work, and on this clay run up some of the mud and silt from the bottom of the pond. This all will give you a dam with a pond that will increase the value of your farm. A trough or sluice must be provided to carry off the surplus water. Experiment must govern you in its construction. A simple trough, a foot wide, four inches deep, will carry off a large quantity of water. Let the top of your dam around the wings be well rammed and beaten with clay, so as to prevent any leakage of water.

Into such a pond it will be necessary to put a few aquatic plants of such kind as will attract flies and larvæ, thus enabling young fish fry to obtain food in a natural state. Also plant willows near the dam. The roots will spread into the earth, binding it together, and also provide hiding places for young fish.

Our readers will recall the fact that to successfully increase fish and keep them up to a good standard in size, we must provide proper food for them. We do this by putting in minnows aud fish of such kinds as are prolific, yet of small value as food fishes. These, in turn, will "form food for fishes." To feed these minnows we put in aquatic plants that attract insects. We will name a few that are common: Potamogeton, Myriophyllum, (Water-millfoil), Utricularia (Bladder-wort), Common. Water-Lily, Polygonum, Amphibium, Pennsylvanicum, Nasturtium officinale (Water Cress)Zizania aquatica (Water Oats, or Indian Rice), Sagittaria (Arrow-head), a fine calla-like growing plant.

If we wish to introduce some insect life in our pond, we examine the weeds pulled from the bottom of some neighboring take or stream, and find them teeming with minute creatures. Let us watch the minnows and small fry around these weeds! How carefully they nose around them, pushing the leaves aside. These minnows live on these infusoria. Pull a bucketful of the weeds, carry them to your pond, lay the roots on the soft mud, put a stone across the roots and you will find the weeds soon growing. The few minnows we have put in have found the weeds and are getting a feast. Your minnows will increase and multiply. Get some yellow perch, a few pickerel, and half-a-dozen small bass. We can not commend the sun-fish, simply because he is a cheeky gormand snapping up everything that comes across his way, having a decided fondness for spawn of all kinds. There are better fish to be had—but he has one advantage to commend him—he will live in almost any water.

The best table fishes for ponds having springs in them are the bass, the yellow perch, and pickerel; put in a few bull-heads or pouts, they are good food fry.

Many farms in these times have a windmill on them for furnishing water for stock, and supplying the house from the well instead of the laborious pumping by hand. By all means lay on a pipe to the fish-pond. It will pay. The fish named will live in water pumped from the well even though impregnated somewhat with sulphur or iron. Perhaps the soil on a farm may be gravelly, and not bearing soil in which the small blood red worms are found; such soil needs "stocking." From some stream or lake we dip up a paddle full of mud. A careful examination proves it to be full ofminute worms and other forms of infusorial life. Deposit some of this mud in your pond, and you have fish food for another class of fry. Let us follow nature in her plan. Her courses are simple, few, and generally direct. She adopts a means to an end, and varies little in her aims.

It is useless to attempt to stock a pond witn trout, because these love the dashing, seething brook. It is useless to put the carp in a pond with the bass family, because the latter are a carnivorous family

and must live on fish-fry. The carp must be bred in ponds especially prepared for them and after breeding must be kept separate from the young fry.

Finally, keep your pond clean. Do not make it a place for the cattle to wade in and drop their excrements. In time, put a fence around it. Plant some species of pines near to it. A few maples or rock elms will add to its beauty and afford a graceful shade. Plant some willows along its sides close to the water. These, overhanging, will afford the fish a shadow from the sun's rays, and their roots will make a good spawning bed; though a proper bed should be made in season and left in the water. A mat of brush fastened in a frame-work of wood, and sunk to the bottom, forms a good spawning bed for members of the perch family.

Let some attention be given every spring and fall to your pond. Repair all damage. Look to your "finny stock;" some times feed with carcasses that are the "results of accidents" (abortions, etc.) on every farm. Let this be done in nature's own way. Drive a stake into a pond to fasten such things to, and in a few hours the swarms of fish in your pond are looking for maggots, of which they are very fond.

Let me counsel in conclusion: Never allow a net to be cast in your pond. Teach your boys and girls to take their fish in the correct manner "with a rod and line." If the fish increase too rapidly, then have a family pic-nic; invite your friends and neighbors, and have a grand, good time cooking your fish near the pond, and have one good day's sport beside this best acre on your farm.

If your boy chooses some girl for his companion because she knows how to catch and then cook her fish, rest assured he has chosen well, and she will make him a good wife. Angling never spoils any man, but makes him better for his days of rest, and often leads his thoughts into fields hitherto a blank to him, and is the first step into the study of natural history.

If the plant I have named herein can not be found to stock your pond, address a letter to D. T. Curtis, care of Joseph Beck & Sons, Boston, Mass., and they will be pleased to furnish the plants at the cost of about 25 cts. per root. These plants can not, as a rule, be found at florists. They are usually kept in botanical collections.

In presenting these items for consideration, I have not followed pet theories, but facts, as I have found them. Recent developments have proved the carp an expensive luxury. The pond and its inhabitants, as I have presented it, can be made a "thing of beauty and a joy" for a lifetime.—Norman *in Prairie Farmer.*

Unless the urine of horses is saved the manure heap will lose its most valuable ingredient. The strong smell of ammonia in horse stables is from the liquid rather than from the solid excrement. Hence the floor should be so tight as not to allow any horse urine to escape, or the stable should be in the basement on a cemented floor.

WHEAT AND CHEAT.

LADUE, Mo., August 12, 1883.

Editor Republican,—In your issue of August 9, "H. G.," of Jefferson county, and "One who knows whereof he speaks," evidently have settled the wheat and cheat question; may be they have. We are neither botanists nor egotists, but will the gentlemen please rise and explain? We have been raising wheat extensively for the past fifteen years in one of the best wheat districts in the State of Missouri, and here are two examples that have come directly under our observation, proving without a doubt that wheat will turn to cheat.

We had two fields of wheat sown out of the same garner; one was sod land, never having had any crop on it before, the other has been under cultivation for a number of years. During the fall the Persian fly got into the sod wheat and injured it, but did not kill the stalk. In the spring the wheat looked well, but at harvest it was so nearly all cheat that it was not worth cutting. The other field scarcely had a head of cheat and made a large yield, so it is evident that we did not sow the cheat.

Last fall while drilling I spilled a sack of wheat in the field. It came up very thick and at harvest there was not a single head of wheat in it, it all being cheat, while the balance of the field was almost entirely free from cheat. Now if these are not two good examples of where wheat turned to cheat, I would like to know the reason, and if they do not sufficiently satisfy the minds of Messrs. "H. G." and "One who knows whereof he speaks," I could give them more just as good reasons or examples.

CARRINGTON.

CHEAT AGAIN.

WAVERLY, Mo., August 12, 1883.

Editor Republican,—I have noticed lately in your paper several articles on the subject of cheat, as it is called—that wheat never does turn to cheat. Certainly those gentlemen must be very short-sighted as not to know it does under certain circumstances where the ground is too wet, which is unfavorable to its development and thereby produces a different growth. Doubtless those chemical elements that are necessary to produce wheat are lost or changed.

Now for the proof. I sowed ten acres of wheat broadcast on new land, and running across the land was a swag containing about one-quarter of an acre. The swag, when I broke up, was very dry and mellow, and I sowed from the same wheat the whole ten acres. It came up well and grew off finely. The winter was cold and the spring was wet, cold late in the spring. On the dry land I raised a fine crop of wheat with not one straw of cheat, and on the swag there was not one straw of wheat, but a heavy crop of cheat.

DR. J. M. WARREN.

BRITISH BREAD-MAKING.

The first process in making bread is the inducing of the necessary fermentation or leavening. Since the time of the early Jews there has been very little change in the process, which is still a matter of experience and personal skill, and done very much by rule-of-thumb. On the success of the fermentation depends the sweetness and lightness of the bread. To show how differently the same process is performed, Glasgow, Edinburgh and Manchester may be instanced. In the Scotch towns the fermentation is slow, extending over about twelve hours, and the yeast used is made by the baker daily—in Glasgow from part of the previous day's yeast with a proportion of malt added; while in Edinburgh hops are used in addition to the malt. The preparation of the yeast and setting of the sponge, as it is technically called, require particular experience and skill, the changes of weather and temperature quickly affecting their success. For the same quantity of bread, twice as much of the fermenting material is used in Edinburgh as in Glasgow, the former being denominated a half-sponge, and the latter a quarter-sponge. The dough in both cases is stiff, and the main difference is that the Glasgow loaf is larger and lighter in texture for its weight, while the Edinburgh loaf is said to be sweeter, from the fermentation being arrested before so much chemical change takes place. In Manchester, again, a quick fermentation is produced in one and one-half or two hours, by the use of dried yeast prepared by the distillers of Holland and Germany, and the proportion of the whole ingredients subjected to the preliminary fermentation, is very much larger than in either the half or quarter sponges in vogue in Scotland; while the dough when finished is weak and soft, and requires that each loaf be baked in a separate vessel or pan of iron, a mode not necessary for ordinary loaves in Scotland. No doubt there are variations between these three methods of fermenting in use, but these are cited as showing the variety of modes used to commence the apparently simple process of converting the three ingredients, flour, salt, and water, into baker's bread. On the Continent it is still frequently the practice to leaven bread with a piece of dough kept for some days.—*Chambers's Journal.*

EFFECTS OF FOOD UPON THE FLAVOR AND QUALITY OF MEAT.

The best animal food comes from localities where the peculiarities of the soil are such as to develop rich and high flavored herbage. It happens that such peculiarities exist high up on the Alps, and on some of the elevated parts of the British Isles, where the grasses are rich and aromatic to an extent notably greater than on the lands lying lower, while on the elevated portions of New England and New York, as compared with the lowlands and the blue grass region of Kentucky, the reverse is true. No; much exercise is not the basis of superior animal food. It may seem, at first glance, that the severe exercise which gives

great strength and power of endurance to the muscles, and which contributes to vigorous health and the strongest hold on life, would also be most favorable to high quality of food in the bodies of such animals; but it does not follow that what is best for the welfare of a living animal is best for the welfare of the one who is going to eat the animal. The welfares of the two clash strongly at some points, and the result of laborious exercise on the part of the animal is one of them. It is not so much severe exercise as good food and pure air that contribute most to excellence in animal food. Pure air is one of the most essential. Its importance is well illustrated in the difference between wild fowl and tame. The partridge, grouse, and prairie chickens, which are comparable to our gallinaceous fowls, are vastly superior to our domestic hen, not because they are better fed, nor because they have more exercise, but because they breathe purer air. Next to pork, the flesh of domestic fowls is most uncleanly and impure. Besides injury from over-fattening, and from mingling offensive matter with their food by being fed in filthy places, the most odjectionable thing is their breathing the effluvia of the roost, over which most of them are compelled to sit till the marrow of their bones becomes saturated with the malarious infections of their offal. This is enough to make all the difference between wild meat and tame. The close stable, the sty and the roost, are the bane of domestic meats.—*Prof. L. B. Arnold, in New York Tribune.*

WRITE FOR THE PLANTER.

[A paraphrase from the *Lancaster* (Pa.) *Farmer.*]

It will pass into history, that for a period of forty-four years at least, Virginia has had an agricultural journal published within its territory, which has received a respectable recognition all over the Union—indeed, could we have afforded to exchange with all who have anxiously solicited an exchange, it would have exhausted our entire issue—and yet, if an omission, neglect, or refusal to write for the *Planter* may be legitimately interpreted as an evidence to that effect, our journal has never yet received a decent home recognition. Nothing is really incorporated with, and becomes a practical part of human character in this life and is thus transmitted to the other life—except so far as it is received and diffused—except there is an *ef*flux corresponding to the *in*flux of human thought, affection and knowledge. The physical man could no more be built up, strengthened, and rendered effective, by the mere taking of food into the stomach, without digestion, assimilation and secretion, than the mental or social man can by merely absorbing and never imparting that which has been absorbed—often selfishly absorbed. A dying man once exclaimed in his last gasp, "All that I *have* in the hour of death, is that which I *gave* in the hours of health." Our torch does not burn less brilliantly by lighting the torch of our neighbor. Light should not be hidden under a bed or under a bushel, but it should so shine that it may be seen of men, and surely every one, intelligent

or otherwise, may have some light that would be of value to others to know. This light should not be imparted, or given out, in occasional spasms, few and far between, but should be habitually given out, just as it has been received. The expiration should be in correspondence with the inspiration, and become as much a daily habit of life as eating and drinking, or sleeping and waking.

It cannot be possible that our farmers of Virginia do not think, and feel and know, or that their minds are uncultivatable deserts, destitute of herb or fruit or flower. It cannot be possible that they have no experiences or make no intelligent observations in relation to their honorable avocations. The abundant and excellent productions of the state, all point in an opposite direction; but they do not seem to fully apprehend that in telling what they do know and what they experience, not only helps their neighbors, but that it is also a moral, and intellectual and a physical benefit to themselves. Many who could write for their local journal, no doubt think, that if they cannot write a long article it would be useless to write a short one, but this is a great mistake. It is brief articles—articles illustrating a single idea—that are most desired, not only by the average reader, but also by themselves. The civilized world is a vast seminary, and every man, woman and child in it is, or ought to be a student, no matter whether their years are ten or a hundred. As long as reason occupies the empire of the human mind, there will be something to learn and something to teach to others: and no matter how aged the individual may become, if he can exercise his faculties at all he will practically realize that "it is better to *wear* out than to *rust* out."

Of course, every one should be left in rational freedom on this subject, and hence there should be no compulsion, save that self-compulsion which every intelligent creature feels or ought to feel, as a stimulant to simple duty. Reason as we will in the present condition of the civilized world, there are many duties which society owes to itself, which are only performed at the beck of self-compulsion. This only illustrates that with all our boasted "virtue, liberty and independence," we are still not in that state of freedom "which the truth makes free;" we have yet to learn that a voluntary and cheerful performance of duty is the result of culture—in other words, a habit directed by thoughtful method. We squander too much time on things trivial or morally hurtful. We have not a proper appreciation of the *love of life*, or we would not thoughtlessly waste the very stuff that life is made of in "killing time." In conclusion, we would respectfully and feelingly admonish our patrons to *try* if only for once, to write for the *Planter*, and note its soothing and beneficent effects.

Beans are not eaten whole by any kind of stock excepting sheep. But by grinding and mixing with corn or oatmeal, beans unfit for sale may be profitably fed to cattle, horses and pigs. They are very strong food, and as stock become used to them the proportion of bean meal may be increased.

DIGGING MUCK

In many localities, this can only be done at a season of the year when the streams are low, which is usually in the hot weather, though sometimes October and November find the streams as low, or lower than August or September, but to delay digging muck until cool weather is to run the risk of not digging at all, for it often happens that a heavy rain in September will fill up the streams so that the water in the meadows will be too high to dig muck except on the top, which, while it gives better muck, is a great waste of land. When possible to do so, it is usually best to dig as deep as the muck can be easily thrown out, say four feet deep, thus getting eight cords to the acre.

So many mistakes have been made in the use of muck that many farmers have abandoned its use entirely, but when used intelligently it is a very important aid to him, and no good farmer will refuse to use it. To cart large quantities of wet muck into the barn yard as was the custom twenty-five years ago was a waste of time, as it added but very little to the value of the manure, especially if it was to be applied to heavy land. When farmers began to use muck liberally, they did not investigate enough to learn the fact, that muck is a material that is unfit for plant food, until it has been changed from its natural condition, or that while it may be very beneficial to one kind of soil, to a different kind it may be injurious.

Careful observation and many experiments have convinced many intelligent farmers that, to a limited extent, muck is very valuable, providing it be in the right state, and is applied to the right soil, in a proper manner. While many deposits of muck are found to be of but little value, if not positively injurious when used green, nearly all deposits are found to be good when permitted to become well dried, whether it be used as an absorbent or applied directly to the land. It is now very generally admitted that it is a waste of time to cart into the barn yard, even of dry muck more than is necessary to absorb the liquids. If any more is to be used it should be applied directly to the land and composted with the soil. Well decomposed muck is found to be very beneficial to light land.

The farmer should always have at least three year's supply of muck on hand, thus giving it time to become well dried and pulverized. One load of this is worth a dozen of green muck just dug out. Before the rainy season sets in, the farmer should house dry muck enough to use as an absorbent during the wet and freezing weather—*Mass. Plowman.*

The well-known fact that a cow will give more milk and make more butter on a bright, sun-shiny day than during one of a dull, dark character is a strong argument in favor of having our winter stables so arranged that the animals get the benefit of plenty of sunshine. If possible, have the cows on the south side of the barn, and provide plenty of windows.

APPLES FOR CENTRAL OR PIEDMONT VIRGINIA.

Notwithstanding the unrivalled facilities for profitable fruit culture in this region, there are here, as in others, narrow valleys with low hills adjacent that are unsuited to orchards, and the owners of such situations had better plant sparingly. Yet, the grape, strawberry, gooseberry, blackberry, dewberry, &c., are cultivated in such places with great advantage.

In addition to our list of suitable varieties, we appeal to a list of *ironclads* (apples), that will not only stand the frosts of such *aretic* places, but afford a plentiful supply for family use and for cider, and these ironclads are useful in all exposed places:

SUMMER.—Early Harvest, Red or stripped June, Early Red Margaret, Summer Queen, Golden Dixie, Red Astrachan, American S. Pearman, Summer Hagloe, Summer Rose, Keswick Codling.

AUTUMN.—Fall Pippin, Porter, Fall Cheese (Mangum), Annate, Mother, Cuthbert, Yellow Bellflower, Buckingham, Gravenstein, Vandevere, Rambo, Autumn Bough, Maiden's Blush, Jersey Sweet, Dominie, Rhode Island Greening, Fall Wine, Cogswell, Virginia Cheese.

WINTER.—Winesap, Albemare Pippin, Pilot, Rawle's Genet, Limbertwig, Abram, Winter Pearmain, Nickajack, Pryor's Red (Big Hill) London Pippin, Lady Apple, Matilda, Back's Hardtimes, American Golden Russet, Winter S. Paradise, Grimes' Golden, Shockley, York Imperial, Virginia Greening, Smith's Cider, Howe's Virginia Crab, King of Tompkins Co., Winter Pearmain.

List for Frosty and Exposed Places.

William's Favorite (July to September); Tetofsky (summer); Porter (early autum); Fameues (late fall); Danver's Winter Sweet (January to April); Large Red Siberian Crab; Montreaf Beauty (crab).

Tetofsky is a Russian summer apple, adapted to all cold or frosty situations. It is an excellent apple for home use and for market. The fruit is of medium size, fair and smooth, nearly round, and beautifully striped with red. Flesh white and juicy with agreeable acid, or rather sub-acid flavor. It is an annual bearer and well adapted to the coldest apple regions.—*Rural Messenger.*

J. FITZ.

Keswick, Va.

THE result of freeing the Erie Canal from tolls is a great increase in tonnage the present season. While this brings Western produce more cheaply to Eastern markets, it promotes such a condition of prosperity that even Eastern farmers cannot fail to be benefited. In fact, many Eastern farmers are buyers of Western-grown grain, which they can sometimes buy more cheaply than they can grow, and are thus directly benefited by the reduction in freight rates.

THIN SEEDING.

If you will favor me, I will present a few facts demonstrative of the decided advantages of thin over thick seeding of wheat. In my last I gave some striking proofs of its superiority, and intimated that I might continue the subject. Seeding time is approaching, and the consideration of the question is in order. If it can be shown that less seed to the acre would produce as much, if not more, than the amount usually sown, we are learning a profitable lesson and are saving money. It is a matter of simple dollars and cents that if we gain by seeding one-half the general quantity to the acre, in the crop, we are making in two ways; augmenting product, and having twice as much to sell or use. My supposition is that much seed is squandered and money lost. I propose first to maintain this ground by the logic of fact and experiment. What better reasoning do we want? Figures do not lie! Mr. Armstrong, of the Elmira Farmers' Club, says: "Let us see what a bushel of seed may do? A kernel of wheat in the fruit becomes thirty-eight or more; most varieties give as much as thirty-five kernels to each full head. Then, if each kernel of the bushel of said seed gives thirty-fold in the yield, the bushel must give thirty-fold. But this is the lowest limit of capacity of the fruitful seed, for it is based on the lowest product, one ear for each kernel of seed. When the soil is limited to wheat, and is well fitted for the seed, a single kernel, by tilling, may produce thirty heads. In good growth it should never average less than four or five stalks and as many heads. Take the lower number, and the bushel of seed, if the kernel reaches a moderate limit of production, must give in a crop of 120 bushels. But this is never raised on an acre of land, hence the conclusion that some part of the seed is wasted, even when but one bushel is sown. That is to say, sowing one bushel per acre pre-supposes waste, and it may, therefore, be assumed that, when two bushels are sown while less than one is required, one bushel is wasted. By this process of reasoning, the conclusion that 20,000,000 bushels are wasted annually in seeding is inevitable, if it be assumed that as many acres are sown annually with two bushels to the acre." The *Rural New Yorker* says: "Considering the question of thin and thick seeding of grain, there is this to be said: Every garden, whether vegetable or flower, shows that those plants which have plenty of room are larger and more vigorous than those which are crowded, even though the soil is no richer, or even poorer. Every part of the plant receives its share of the sun and air. The richer the soil, then the more room, within certain limits, a given plant requires. To sow three bushels of wheat per acre on strong ground, well prepared, would be to crowd the plants, and thus to deprive them of the air, light and moisture necessary for their full development. Half, perhaps one-third, of that amount of seed would, under such conditions, furnish the needs of a healthy existence. We should then have larger stems, larger heads, and heavier grain, and an increased power of resisting disease and the attacks of insect pests."

In the National Agricultural Report for 1867 is the following: "An article by an English farmer presents a large number of facts, obtained by an extensive correspondence with farmers in the land who have tested thick and thin sowing of wheat during previous years. The testimony is so strongly in favor of thin sowing that it appears wonderful that English farmers have not adopted the system generally. The requisitions are that the land shall be in the best tilth, the seed of the best character and the variety pure; also that it be planted so as to give each seed one square foot of soil. It appears from the experiments mentioned that the more grains sown the fewer the number of ears to each grain per acre. By special culture of small spots, a crop at the rate of 108 bushels per acre has been produced, and another of 162 bushels per acre. The general yield is stated to be at least doubled by thin sowing. By thin sowing it must be understood that but one seed was dropped in a place. J. J. Mechi, of England, says that the thick sowing of wheat is a great National calamity; that more crops fail to yield well from too much seed sown than too little manure. Liebig justly says that the greatest enemy to a wheat plant is another wheat plant for the very obvious reason that both require the same food. Small heads and kernels, and weak, flabby straw, are the natural consequences of this competition. For several years I tried one bushel of wheat per acre, both drilled. The difference in favor of the one bushel was equal to a rent of thirty shillings ($7.50) per acre." Agricultural Report for 1873 says: "In West Virginia we sowed one-eighth of an acre in wheat for experimental purposes—variety, Fultz; quantity of seed, one gallon; rate, one bushel per acre. At harvest it was not much thinner than where the usual quantity had been sown—one and one-half bushels. The yield quite surprised us, being 180 pounds of wheat and 224 pounds of straw, equal to an average of twenty-four bushels per acre; while the wheat seeded one-half thicker, on similar soil, yielded fifteen bushels per acre, a gain of nine bushels per acre in the yield of thin over thick seeding, and a-half bushel of seed saved besides. By thin seeding I mean a bushel of seed, or less than a bushel, to the acre." An Englishman, by finding one very superior head of wheat and selecting the largest grain, in a few years is said to have harvested 100 bushels from one acre. Report for 1868, page 417, says; "An experiment, made by the Farmers' Club, Minnesota, demonstrates the great advantage in giving sufficient room for development of wheat. Field 1—Two bushels seed per acre, from one to four inches in depth. Field 2—Five pecks per acre, two and one-half inches deep. Field 3—Three pecks, eighteen inches apart. Results: No. 1—Good wheat, heads medium in length, well filled, and standing thick on ground; unequal in growth, some straws five and six feet in length, others two feet; some heads very green, others ripe; estimated yield twenty to twenty-five bushels per acre. No. 2—Had a better color during growth than No. 1, and was very even in straw and degree of ripeness; heads about even, of extra length, bundles very heavy; estimated yield thirty bushels per acre. No. 3—Only three pecks per acre, extra at all times; its unusual deep green color and broad leaves

attracting much attention. No one supposed it the same kind of grain as lots 1 and 2. It stooled out much more than either of the others, and was uniform in ripeness and length of straw; estimated yield thirty-five to forty bushels per acre. The Club concluded that they had been in the habit of using too much seed for spring wheat." President Hoffman, of the Elmira Farmers' Club, claims that land that will not yield a full crop with five pecks to the acre is not fit for wheat.—RUSTICUS, *in Farming World.*

Fayette county, Ky.

[Every reader of the *Planter* knows what our theory is, and practice has been, in respect to *thin* seeding of wheat. It is too late to discuss the subject now, but we clip the foregoing from the *Farming World* with the hope that it may furnish food for thought and a matured judgment before the time for sowing the crop of 1884.—ED. S. P.]

MAKING HOME COMFORTABLE.

In order to make a farm home comfortable, attractive and salable, three things are essential. These are grass, flowers and fruit. Comfort during the heated term of summer is a first consideration. A cool place of resort at mid-day is a place to be desired, and which but few small farmers possess. A neat, closely-clipped grass lawn, shaded by the deep green foliage of the maple or other deciduous trees, answers admirably for this purpose. While it is true that but few over-worked farmers and over-worked wives ever become so apparently aristocratic as to provide for a few hours of pleasurable relaxation, it is nevertheless true that a good lawn can be made at comparatively little expense, and with a good lawn mower, like the Buckeye, can be easily kept in excellent order if mowed every two weeks during the growing season.

If without such a lawn, begin the formation of one immediately. The grading and manuring of the surface, and the thorough intermixture of the materials used with the soil, will fit it admirably for the reception of seed, either in September, October or November, or very early next spring. The kind of grass seed to use will depend upon the location. As a rule, the grasses which make the best pastures in the neighborhood will make the best lawns. To the north of, and in the northern portion of the cotton-growing belt, we recommend the Kentucky blue-grass for lawns. Sow from two to three bushels to the acre. We have seen very successful lawns made with an equal weight of Kentucky blue-grass, red-top and white clover seed, the quantity required being about a-half bushel to each one hundred feet square.

As soon as the grass is well rooted, a few flower beds should be cut in the sod. These should be near the house, but not located so as to hinder free access to and from the lawn. The beds can be of oval shape, or that of the oak leaf, or of any simple but irregular form. Small rockeries, as usually constructed, are unsightly, and not to be tolerated. In arranging trees and flowers, consult Vick's Floral Guide.

Tan-bark is an excellent material for the making of walks, as such walks are much cooler and more pleasant to both foot and eye than when coarse gravel is used. Groups of trees are much to be preferred to rows. Very much can be done by properly planting them. Two or three trees are sometimes set together, so that when they grow up they will form natural seat backs. Oak trees are excellent for this purpose.

In conclusion, it may be as well to remark that the number of walks and flower beds should be limited to only what seem to be actually necessary. Better have a plain lawn, with here and there a shade tree, than to make the labor required to keep it in order, an irksome task. The less trouble it is to be clean about a place, the cleaner it will be kept.—*Farm and Fireside* (*Ky*).

FARMERS' HOMES.

There is no subject more important for a farmer to consider than the one why boys who are brought up on farms are usually so anxious to leave home. It is no doubt true that large cities possess an almost irresistible attraction to very many, but that does not account sufficiently for the giving up the almost certainty of an independent, honorable, affluent and pleasant career for a chimerical prospect of great gain, or to settle down as merchants' clerks, mechanics or hewers of wood and drawers of water in our villages, towns and cities. In these days of daily newspapers, almost perfect mail-communication, the electric telegraph and fast trains the most that is enjoyable in the city is shared by the intelligent and enterprising farmer, while he has not to endure the many disadvantages of city life; and it is in his power to secure to himself almost everything that makes life worth living. And just here is the key to the whole matter. There are a large number of farmers who seem to ignore the bright and beautiful side of life. To them grass was made alone for cattle to eat, not for men to look at and enjoy; to them flowers are weeds, books a snare, rest and comfort idleness and self-indulgence. They give their cattle the very best attention, but let their children take care of themselves and find their own amusements—a task as difficult under the circumstances as that given by the Egyptians to the Israelites, of making bricks without straw. The home is comfortless; there is nothing to interest in the long winter evenings; everything is dull, weary, monotonous, and the younger generation are only too anxious to escape from it; and the only refuge seems to be the city, which swallows them up as greedily as the ocean its wrecks.

The remedy is obvious. Handsome, comfortable houses—not merely a number of furnished rooms, but comfortable, home-like houses—snugly embowered in miniature parks, with neat lawns and flower- and vegetable-gardens; good common-school education for the children, who ought to be taught the principles of growth and successful farm-

ing, thus classing it with the sciences; newspapers, music, an occasional visit to the cities to see what they are like and how disagreeable they are—such things as these will keep the children on the farm. This is no fancy sketch, and is consistent with the best and most profitable farming, for here, as everywhere else, the best wins, after all.—*Farmer's Friend and Planter's Guide.*

LAND IMPROVEMENT, AND A NEW IMPLEMENT.

MANTUA, October 6th, 1883.

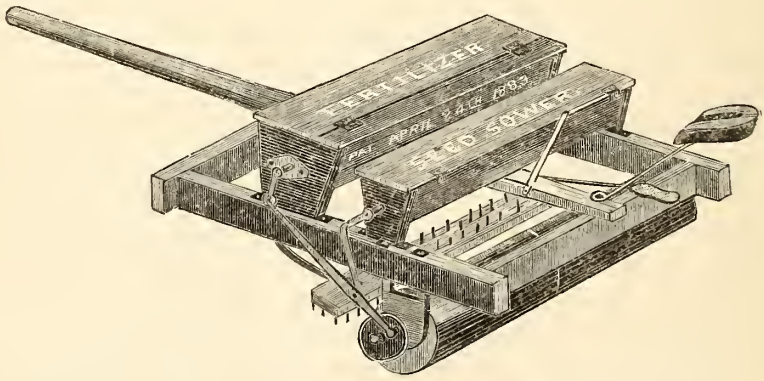
Col. Knight, Editor Southern Planter:

Your very excellent periodical, full of most valuable information to the farmer, reaches me quite promptly each month, and I assure you, were it in my power, I would induce every farmer in the State to take it. The cost is but little in comparison with its value. While the scientist, as well as the practical farmer, may differ in regard to some of the important features of agriculture, I suppose all will agree to be convinced when the demonstration is so plain that the speculator must give way to practical results. I am still using, with marked results, the dissolved South Carolina rock and kainit (1,700 pounds and 300 pounds), and while my neighbors persist in using the ammoniated goods, and now that fish chum is so cheap and plenty, are perfuming the whole country with it. I am grazing fifty head of stock cattle on abundance of grass, produced by thorough cultivation and acid phosphate and kainit, and a neighbor has not grass enough to supply, in most instances, the small amount of stock he keeps to work his exhausted land. Well, I suppose he may say that is *his* business, and not mine. But may I not ask the question, Is it not every one's business to try not to bring discredit upon his neighborhood, and if it is desirable to make poor land fertile, and that can be done economically and quickly, and by so doing you give credit and increased value to your neighborhood, is it not the positive duty of every man to use his best endeavors to bring about such a desirable result as promptly as possible? I have all of my land, except that which is in corn and that just now prepared for wheat, in grass—English blue-grass, timothy and clover, and this upon a farm that was entirely without grass three years since. My wheat, taken from lands that gave one and a-half barrels corn and one and a-half bushels wheat three years ago, turned out this season from fifteen to twenty bushels per acre, portions of the field giving over twenty bushels per acre, and the field is beautifully set in clover.

When I took possession of this farm it had not sufficient grass to feed twenty head of cattle. It has, this year, fed over one hundred. I have bought and sold over twelve hundred dollars worth, and have now on hand over that amount of stock cattle. I am raising the finest Devons I have ever seen. My bull is as perfect an animal, I think, as can be produced, and his get are invariably like him, even when from common cows. He is the finest stock animal I know of, and I am sure will outweigh any full bred Devon in the county.

I have at last completed arrangements for the building of my combined machine, and propose exhibiting it at the State Fair. I here send you my circular and also a cut, showing, only partially, the machine. With this grass-seeder in the hands of every farmer and proper cultivation given the lands of Virginia, agriculture will soon make a more favorable appearance than it has ever done.

Yours truly, T. R. Crane.



[We give herewith a cut of the new implement referred to in Mr. Crane's communication.

Its objects are thus described:

"The inventor, who is a practical farmer, found out long since, that the only way to secure a good set of clover on fall sown wheat, was to first harrow the ground immediately after the frost left it in the spring; then sow the seed and then roll; but the weather being so variable in early spring, he experienced great difficulty in accomplishing the three items, viz.: harrow, sow and roll, before the weather would change, and, owing to this difficulty, he applied his mind to the getting up of a combined machine that would complete the whole operation at one time.

"This machine is eight feet wide, and will go over, with a good pair of horses, easily twenty-five acres per day. It will be built of different sizes, for both one and two horses, and is strictly a broad-cast seeder "—Ed. S. P.]

Nothing so narrows the play-ground of wit as when individual opinions and love of truth stand therein as fixed, solid pillars.—*Jean Paul.*

AN ACRE.

One acre of ground in lawn and garden is sufficient to maintain a family cow in any village or rural locality. One who knows how it is done, and has done it for several years, describes the methods by which it is accomplished: "A quarter of an acre is in garden—strawberries, currants, grapes, raspberries, blackberries, and gooseberries. There are six apple trees, and fourteen pear trees. All but the garden is in grass, chiefly orchard grass. I am already feeding down a small piece of orchard grass under some apple trees the third time by tethering the cows upon it. Some of the grass I have just cut the second time, and some give a third cutting. Fifty rows of sweet corn for table use are now beginning to yield boiling ears, and the stalks and husks go to the cow. There are pea vines, bean vines, beet tops, small potatoes, and other wastes to help feed the cow luxuriously, and in this way the family cow may be kept in abundance throughout the year upon one acre, while her manure will keep the whole acre growing richer every year, and will provide a liberal quantity for the flower beds and the shrubs, and dwarf pears on the lawn. A very large quantity of the best manure is made by throwing the weeds with all the soil attached to them, the leaves that are raked up, and the wood ashes from the house, together with as much soil as may be needed, into a shallow pit in the cowyard, and leading the drainage from the manure gutter into it. If a farm were only managed as one manages the garden, every acre might easily pay a hundred dollars; but the labor is not to be had, and one pair of hands cannot do it for more than five or six acres. But the time will come when it must be done; when the land becomes fully occupied, and this great country has its 500,000,000 of inhabitants, a number which it can sustain with the greatest ease, with a thorough system of cultivation."—*The Dairy.*

A CORRECTION, &c.

WASHINGTON, D. C., Sept. 26, 1883.

Editor Southern Planter:

I was somewhat surprised to note my letter addressed to Dr. Ellzey in regard to "floats," in the *Southern Planter* for October; but the only regret I have is, that your typo detached the words, "save experimentally" in the third paragraph, from the first sentence to which it belonged. I have always contended that the immigrant should follow the general course pursued by the farmers among whom he settles, and should deviate therefrom only experimentally, and this idea will I think be conveyed by amending my letter as indicated above.

It is a fair presumption that intelligent men of all sections of our country are alike in keen, shrewd judgment and observation, or what directly concerns their pocket, hence a new comer, whether in the South or North, who ignores the experience of his new neighbors

founded on changed conditions of soil and climate, and applies only his own preconceived notions, will sooner or later come to grief. It will be merely a question of the extent of his capital till he resorts to the general cursing indicated by Dr. Ellzey. I have seen many farming failures on the part of immigrants locating South and they are attributable more to following former courses than to all other causes combined. For instance, a market gardener near Richmond Va., plowed his new truck patch 15 or 18 inches deep just as he had done his gardens near New York where frost served to ameliorate to greater extent than is possible with manures. Of course he soon gave up his venture and returned North a "sadder if not a wiser" man. Had he asked his brother truckers for information he would have succeeded in the end, but he knew better than they in his own conceit and reaped a fool's reward. With a travelling observation and experience in nearly all the States of the Union, I have reached the conclusion that Virginia offers as great agricultural inducements to the shrewd, cautious and sagacious immigrant as any other State. Certainly Kansas, Colorado, Iowa, Missouri, etc, have no superior general advantages for the above class of men, and as much wealth can be dug out of one acre by such immigrants in the course of 10 or 15 years as from those in the Western States. The only difference to be found lies in the altered conditions of soil and climate from those states where longer winters and shorter summers give more frost and changed practices. Caution is imperatively needed, for the northern manner of handling soils, etc., will here inevitably produce disaster. To do as the intelligent native does, excepting experimentally, will invariably bring success in the end.

R. S. Lacey.

BOB WHITE, THE GAME BIRD OF AMERICA.

[In our issue for September we made brief notice of the August number of the *Century*, and a special mention of one of its leading and beautifully illustrated articles with the heading above. We now make a quotation which will be seasonable and interesting to farmers who allow themselves occasional recreations in partridge hunting.]

"To become a successful shot at Bob White, the sportsman should bear in mind that Bob, immediately after he has sprung, flies with a velocity which probably exceeds that of any other bird; and also that, unless fairly hit, he can carry off a large number of pellets. When a covey springs it rises at a considerable angle with the ground. Hence, in shooting at a bird in a flushed covey, the sportsman of unsteady nerve and sluggish muscles is apt to undershoot, the bird rising with such velocity that by the time the gunner has brought his gun into position the bird has passed above his line of sight. As a rule, I think that about one second generally elapses between the instant of springing of the bird and the moment of fire. This interval gives the bird time to gain a moderately horizontal line of flight, and allows the sportsman to get a fair aim.

"In shooting at an incoming bird, let him be out of sight and just below the rib of your gun at the moment of firing. At a bird going overhead, wait till he has passed well over; then shoot under him. At straightway shots hold a little high, so that you just catch a glimpse of the bird over your barrels.

"In shooting at cross shots, it should be understood that the velocity of an ounce of No. 8 shot driven with three drams of powder is near to 900 feet per second. In that second a Bob White, if under full headway, will go 88 feet, if we estimate the velocity of his flight so low as only a mile a minute. If he is flying directly across your line of sight and thirty yards off, the shot will take one-tenth of a second to reach that distance, and in one-tenth of a second the bird has gone over eight and eight-tenths feet. So, if we should fire a snap-shot directly at a cross-flying bird thirty yards distant, the centre of the cloud of shot would fall about nine feet behind him, and he would pass by unscatched. To kill him 'clean,' you must hold nine feet a head of him. To some sportsmen, nine feet may seem a great distance to 'hold ahead' on a cross flying bird thirty yards away, but not to those who have noticed attentively the relations of the line of their aim to the position of the bird at the very moment they hear the report of their gun. Also, estimations of distances in the air beside a small and quickly moving object are very unreliable, and often when the sportsman thinks he has fired only one foot ahead of a bird he has really held ahead three feet. Let some one suspend horizontally in the air an unfamiliar object that must be distant from fence rails and other things whose dimensions you know, and then guess its length. You will, after a few trials, be satisfied that the estimation of actual lengths at thirty yards is very loose guess-work.

"A beginner who, out of three shots, can bring one Bob White to bag, need not be discouraged or ashamed; with sufficient practice, he may one day kill one out of two birds fired at. The sportsman who does not select his shots (and no man really a sportsman can do that), but takes his chances in the open and in covert on all birds which offer a probability of success to his skill, and who, the season through, brings to his bag three out of five birds fired at, is an accomplished sportsman. If he can make three successful shots out of four, he is a phenomenal marksman."

THE MERINO A MUTTON SHEEP.

The *Western Rural*, in an article on the merino as a mutton sheep, has this to say:

The mutton breeds are all right and profitable. But as we recently said the Merino is a mutton sheep when practically considered. Nine hundred and ninety-nine consumers out of a thousand never inquire at the market for anything but mutton, and when they get it, they never stop to inquire if it once had long, medium or short wool upon it. In fact, they do not know enough to make such inquiry. It is meat they

are after, and not wool. The Merino carcass finds its way into the market just as a Southdown or Cotswold carcass does, and are consumed just as the carcasses of the latter are. But we observe in one of our exchanges that a correspondent says that he knows from experience that he can make more money out of Merino mutton than he can out of the mutton of the mutton breeds. That is certainly going further than we have ever dared to go, and to tell the truth, we dare not go so far now. We have no doubt that under some circumstances it would be true, but under circumstances particularly favorable to the mutton breeds they would no doubt pay best.

FARMERS, ARBITRATE—DON'T LITIGATE.

The law favors arbitration as a peaceable and inexpensive method of settling difficulties. In many of the States there are statutory provisions by which a judgment of the court may be rendered on the award or finding of arbitrators concerning a matter duly submitted to them. It is almost always possible to take a case out of court and submit it to referees at any stage of its progress. In the absence of any statutory provisions, it is always lawful for parties to agree to submit their differences to arbitrators, and abide by their decision. The agreement to do so may be either oral or written, but the latter is the best way. The form is not essential, except that the meaning should be carefully expressed. It is customary, in addition to the agreement, for the parties to execute to each other an arbitration bond, conditioned on each party performing the award given by the arbitrators, whatever it may be. If the award is properly made, it then becomes binding on the parties.

Arbitration is well worth considering by farmers, who find themselves in dispute about some simple question of fact, as, for instance, the amount of damage which A's breechy cattle have done to B's corn, or as to what was the value of A's sheep which were killed by B's bad dog. Such questions can generally be quickly, cheaply, and justly settled by one or more fair-minded neighbors, and the expense, delay, and aggravation of a suit in court may thus be avoided.

This article from the *Agriculturist*, the sentiments of which we approve, reminds us of a personal history. In the year 1870 we had a controversy with a tenant, and were forced to have a warrant levied for rent due. This act on our part very much exasperated the tenant and he employed General Henry A. Wise, a man of note, as his counsel and then *bragged* that he would throw us out of court. Circumstances caused our tenant to change his pugnacious efforts, and we received from him a proposition to *arbitrate* the matter. We promptly replied that nothing would be more agreeable, and if he would name his arbitrators we would name ours, and the two should choose the third. He named Gen. Wise, his counsel, and he was promptly accepted as ours also; so that he was the sole judge in the case. When the time came for the case to be tried in the General's office, both parties being present, the General seemed to be in doubt about his position, and remarked, "if I am to play the part of a lawyer, then I must do my *damndest* for my client, but if I am to play the part of a judge, then I am a *seeker after* the *truth*." *On* that principle, we replied, that we preferred he should act the part of a judge. Our adversary assenting, the General then remarked, this is the first time I have had the honor of wearing the judicial ermine," and proceeded with the case. The court's judgment was in our favor, as we were sure it be, and thus a tedious and expensive litigation was avoided. We may remark, that the distinguished General and Ex-Governor was true to his character—he knew what *truth and justice* were, and followed them, but as a *lawyer* he knew, as well, his obligations to his client.—Ed. S. P.]

Editorial.

SOME FIGURES ABOUT LOTTERIES.

It may appear out of place for us to speak of the subject of our heading, but when we see the number of persons who are unwisely, if not sinfully, investing in lottery schemes—possibly some readers of the *Planter*—we may be pardoned for assuming the role of a mentor in the matter. We do not propose to speak of the subject in its moral aspects, for these, like other matters of conscience, are best left to the judgment and heart of each individual. Yet we may say that lotteries are a very seductive form of gambling, and in respect to the question of *chance*, as we believe, are less sure and promising for gain than *Faro* and other ostracised games. We know nothing of *Faro* personally, for we never saw the game played, and only know of it by what we have learned from others, but we know something of lotteries. In years gone by, when they were legal under the statutes of our State, we were induced to buy our first ticket in company with the Lieutenant-Governor of our State. Our ticket drew $500, and only missed the capital prize by a figure, (and there were many chances against the possession of this figure), but the Governor's was a blank. The money having come easy, we, then and there, invested one-half, $250, in other tickets, but *all were blanks* when the drawings were announced. This sickened us of lotteries, until a few years past, the *semi-annual* drawings of the *Louisiana lottery*, said to be under the personal supervision of Generals Beauregard and Early, arrested attention. With two friends a pool was made of three tickets, one of which drew $50, and from this fund *ten* tickets were taken in the succeeding *monthly* drawing, all of which were *blanks*.

Now seeing that this Louisiana lottery is proscribed by the Post-office Department, two questions have arisen:

1. How two such distinguished and honored men as Generals Beauregard and Early can lend themselves to an unfair or illegal enterprise? Their names, more than anything else, have sustained this lottery, and they owe it to the country, whose favorites they are, to look into the minutest details, and if their judgments and consciences do not sustain them, then to withdraw the support which they now give. The names of these gentlemen are given as a guaranty of the *fairness of the drawings;* but admitting this to its fullest extent brings us to our figures, or second point.

2. There can be no reason for unfair or fraudulent acts in the man-

agement of the drawings, for the chances are so much against the ticket-holder and in favor of the lottery company, it would be the basest turpitude to do otherwise than conduct the drawings fairly and in conformity with published schemes. So it is that such men as Generals Beauregard and Early can attest the fairness of the drawings of the Louisiana lottery. The published schemes of this lottery show that in its monthly drawings there are 100,000 tickets, worth $5 each, or a total of $500,000, and that there are 1,967 prizes, amounting to $265,500. This gives an excess of $234,500 if all tickets are sold and all prizes paid. But suppose that one-half the tickets are sold, the other half remains in the hands of the company, and it has an *equal chance* with all ticket-holders to have the capital and other prizes represented in the unsold tickets; and so with any other proportion of tickets which may be sold the chances are always in favor of the lottery.

But let us see how the ticket-holder stands in other respects. With 100,000 tickets and 1,967 prizes he has about *fifty* chances to *one* of getting any prize at all; but *one* in 100,000 of getting the capital, and proportionately less for others until the general average of *fifty* to *one* is reached.

We have heard it said that the 100,000 tickets are not put in the wheel, and this seems probable, for it would be a great labor to do it, but only 1,000, made up, possibly, by a chance selection of ten from the series of centesimal numbers. If this be so, the ticket-holder's chance is again reduced ninety to one. To explain: *A* has a ticket numbered 1251, and there are 100 tickets between 1200 and 1300, of which only *ten* are taken for the wheel, then ninety of his chances are gone, so far, at least, as the drawn capitals are concerned, and he can only come in for the small benefit of terminal numbers, which are alike doubtful and remote.

The great odds which appear to be against the purchaser of a lottery ticket ought to satisfy a reasonable person that he has no chance to gain money, but an easy way to lose it.

Our purpose in this article is not to denounce the *Louisiana* lottery more than any other, but to express the candid opinion that all are seductive; cannot, in any way, be commended, and are fruitful of evil influences.

Lotteries derive their support mainly from the middle and laboring classes, who are least able to waste their money. The tempting bait comes to them with peculiar force; as, without computing the immense chances against them, they read the attractive advertisements and blindly hope that the investment of a dollar or two of their hard earned money will be multiplied unto them a thousand fold. How vain a hope! Let the thousands who are supporting lotteries speak! not to the public, but to their own judgments and experience, and say whether what we have written is not true, and then refrain from the pursuit of an *ignis fatuus*.

SOME COMMENTS.

REPORTS OF THE PROCEEDINGS OF THE AGRICULTURAL SOCIETY OF VIRGINIA.

In the October No. of the *Planter* we find the following from the worthy Secretary of the Virginia State Agricultural Society, Mr. Geo. W. Mayo:

"By the premium crop awards, farmers can, through the statements accompanying the samples, ascertain what manures, modes and implements of cultivation and character of soil, have yielded the best results in each variety, and the time, labor and expense attendant."

Now, how are the farmers to get at the information above referred to? Will it be affixed to the specimen crops which receive the premiums, or must the farmers resort to the Secretary's office to read "the statements accompanying the samples," or will they be found in the published reports of the Society?

It is "high time" that the Society was taking steps to have the Reports of its Proceedings published, and it is the duty of the members of the Society generally to attend its night meetings and participate in the discussions, and it is time they were heeding this duty, instead of resorting to the theatre and other places of amusement. By doing so, they will give the Society something worth publishing in their Transactions. In 1881, the writer attended, in Philadelphia, an exhibition of the International Association of Sheep and Wool Growing in the United States. For three nights, from "tea-time" to 11 o'clock, the members of the Society assembled in large force, and carried on interesting discussions on the subject which had called them together; and these discussions were afterwards published, together with essays read before the meetings.

BLUESTONE FOR SMUT IN WHEAT.

We notice in the Report of the Superintendent of Government Farms and Operations in the Madras (India) Presidency (*Southern Planter*, page 513, October No.), the following for smut in wheat: "For fifty pounds of wheat take three pounds of sulphate of copper (bluestone), which dissolve in one quart of hot water; when the solution is cold, pour it over the wheat (for seed)," &c. This must be a mistake, and might mislead some inexperienced farmer. Three pounds of bluestone will not dissolve in one quart of water; and if it could, it would probably destroy the wheat germ, as it is an active caustic in such strength. POLLARD.

It has long been believed by many members and friends of the State Agricultural Society, that much of its usefulness is impaired by the non-publication of its Transactions. Beyond the mere privilege of sight-seeing at its fairs nothing is given to the public, and there is much kept from view and left to sleep in the dust of the Secretary's office. The statements required by the rules as to premium farm and garden crops, orchard and domestic products, together with the special reports

of judges which are often—and always should be—made, would furnish a fund of practical informatiou; and if placed before the farmers of the country would tend to make them earnest friends of, and workers for, the support of the Society. These views we have, in our official connectiou with the Society, frequently presented and urged, but in the absence of any aid from the State, which is common in other States, it has been more a question of pecuniary means than otherwise. We will now say publicly, what we have said privately, that until the Society adopts a regular and defined method for the publication of its Transactions, the columns of the *Planter* will be open, without charge, for the publication of all matter as the results of its exhibitions, which may be collated and supplied by the Secretary, with the approval of the President.

We say further, that we are glad to hear that steps will be taken to have a competent stenographer to report the discussions in the general meetings of the Society during the Fair week, and these will also be published in the *Planter*. In one of these meetings, several years ago, the question was introduced as to the best means of restoring our impoverished lands, and for two consecutive night-sessions the subject was earnestly and well discussed with much benefit to those who were present; but as to the bulk of the farmers of the State and country, it was as breath dissipated by the winds.

The pertinent questions of our correspondent should arrest the attention of the Society in its next general meeting.

An earnest and faithful friend of the Society, and a life member, finding that he will not be able to attend the next annual meetings, has sent us a communication addressed to the Society, with a request that it be read and considered. We have placed it in the hands of Secretary Mayo, and bespeak for it a careful consideration.

As to the other subject presented by Dr. Pollard's communication, our readers will notice that in July, August and September we gave our views and experience in respect to the best method for preventing *smut* in wheat. To soak the seed for ten or twelve hours in a strong brine, made of common salt, is all that is necessary. We have used *bluestone*, but prefer salt because it is more handy, more readily dissolved, and fully as efficient. When *bluestone* was used there was no weighing or measuring. Water sufficient to cover the wheat was one point, and dissolved bluestone enough to present a *decided taste* by the tip of the finger on the tongue was the other. We agree with Dr. P., that our notice of the subject in our last issue, taken from the Report of the Experimental Farm in British India, which gives three pounds of bluestone, dissolved in a quart of hot water, for fifty pounds of wheat, is excessive and destructive; but we think there is some typographical error, and it is well that the Doctor has called attention to it.

The Southern Planter.

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EDITORIAL NOTES

FARMERS,

Come to the State Fair, and call at the *Planter's* office on the grounds.

YOUNG LADIES AS FARMERS—About a year ago we had occasion to introduce to the readers of the *Planter* a young lady of more than ordinary accomplishments and educational acquirements as a *practical farmer*. Having by the death of her father come into possession of a good farm, she found that she would have to entrust it to the management of a man whom she might select, and take the chances of his skill and fidelity, or to undertake the work herself. She chose the latter course, and we have had very favorable accounts of her energy and success.

We now clip from an exchange the specification of another case:

A LADY FARMER.—L. S. Coffin, a railroad commissioner of Iowa, "whose influence is always on the right side," owns an 800 acre farm, one of the best in the State, which during his absence from home is largely managed by his daughter Miss Carrie, who delights in out-door life, "well educated and described as having few equals anywhere as a practical agriculturist and stock-raiser."

HYDRO-CARBON FUEL.—We are pleased to learn that our friend E. G. Booth, the owner for the U. S. of the Carter's Patent hydro-carbon Retort will make at the State Fair a full and interesting exhibition of this novel invention for making *water* a practical and cheap *fuel* in comparison with wood and coal. He will have as we are informed by his agent, Capt. Benedict, a steam fire engine showing its use in this connection, also two steam boilers, one 25 horse power, and one of a smaller size for agricultural purposes.

We have in former issues of the *Planter* mentioned, at length, this utilization of *water* decomposition into its original elements of by hydrogen and oxygen. Hydrogen, the most inflammable of all gases and yielding the greatest amount of heat, is about to become an important agent as fuel for fire, as it is for extinguishing it. An amount of *carbon* is required to produce the chemical division of the elements of water and this is furnished by *crude petroleum*. How far its use will supersede other fuel may be regarded as an open question, but the present outlook is in its favor. Come to the Fair and judge for yourselves.

THE FIRST GUN.—We have just purchased a lot of new material and will in a short time discard the "patent sheet," and publish an "all at home paper." It will take a little time to get things in proper shape, but we trust that our patrons will bear with us a few weeks longer.

The above extract is taken from the *Nottoway Weekly News* published at *Black's and White's*, a flourishing railroad town in our native county. About a year ago we ventured to suggest to our brethren of the press in the rural districts, to discard the *patent outsides* so far as was necessary to adapt their papers to the local agriculture. These papers have their *local* features in all respects except agriculture, and we did not like to see this great interest ignored in similar respect.

We advised and still advise, that an in-

side column or two should be devoted to farming topics, and that the farmers of the district should be invited to contribute in such a way as to awaken and promote a local interest in agriculture.

BOOKS AND MAGAZINES.

BEE-KEEPING FOR PROFIT.—A new system of Bee Management, by Mrs. Lizzie E. Cotton, West Gorham, Me. Price, $1.

This is a neat little publication, which treats *practically*, and in an intelligent manner, of the whole subject of *bee-keeping* under distinctive heads: such as "Honey Bees," "The Controllable Hive, &c.," "Feeding," "Hiving and Swarming," "Anger of Bees," "Bee Moth," and many other subjects connected with a proper understanding of bees, their habits, and uses. See her advertisement in this issue of the *Planter*.

COPP'S U. S. SALARY LIST AND CIVIL SERVICE RULES.—Our many readers will welcome the solid information contained in the 160 pages of this recently-issued book. It is prepared by Henry N. Copp, a lawyer of Washington, D. C. All the Government salaries are given from President Arthur's $50,000 to postmasters with $500, officials of the Treasury, Interior, War and Navy Departments, Custom Houses, Post Offices, and fully 20,000 federal offices arranged by States and Territories. Specimen examination questions for admittance to the Civil Service throughout the country are added. The price of the book is only 35 cents.

THE ART AMATEUR FOR OCTOBER.—We have so often spoken of this excellent publication that we can scarcely say more in commendation, for each monthly issue seems to exceed in the beauty of illustrated subjects its predecessors. MONTAGUE MARKS, Publisher, 23 Union square, New York; $4 a year.

EDWIN ALDEN AND BROTHER'S CATALOGUE OF THE NEWSPAPERS OF THE UNITED STATES.

We have received this substantial and well bound volume. As a *Directory*, it ranks among the first of its class. Its arrangement is good, so that easy reference can be made, and any existing paper or journal, wherever located, can be promptly found. E. ALDEN & BROS., Publishers, Cincinnati, Ohio.

We have been favored by Prof. BAIRD with the last Report of the *Smithsonian Institution*. It contains 839 pages, which are filled with important and interesting matter in many departments of knowledge, and much that an educated farmer can well appropriate. Its illustrations of Indian mounds and other subjects are especially interesting to the readers, or students, of the ancient relics of our country. The paper on *Tuckahoe*, or *Indian Bread*, is drawn, to a large extent, from the old histories of Virginia. Prof. BAIRD will accept our thanks for the book. Ask for it through your Congressman. It comes free of charge.

DIO LEWIS'S MONTHLY.—We have the third number of this new *Monthly*—112 pages. It is rather *unique* in its *get-up*, in respect to paper and typography, but both are good, and its contents is varied and attractive. Price, $2.50 per year. Address, DIO LEWIS, Editor, New York city.

The November number of the *North American Review* contains, among other excellent articles, one on *John Brown*, by the Rev. DAVID N. UTTER, which is calculated to seriously affect the popular estimate of the hero of Osawatomie. If we had space we could tell something of this hero from a personal acquaintance formed when he traversed Virginia in the summer of 1859 under an assumed name.

ADDRESS AT THE NINETEENTH SESSION OF THE AMERICAN POMOLOGICAL SOCIETY, held in Philadelphia, Pa., September 12, 13, 14, 1883, by MARSHALL P. WILDER.

The venerable author of this Address has favored us with a copy, for which he will accept thanks. The *Planter* has gone to him for years, and we know that there is not a more honored name connected with the horticultural and agricultural progress of the United States. We quote from the morning edition of the *Boston Journal*:

"Without over-estimate, it may be questioned if there is one man in America whose life covers so wide a scope and such varied objects, in all of which he is conspicuous, as the Hon. MARSHALL P. WILDER; and hardly one could be found to evoke such an assemblage as that which greeted his eighty-fifth birth-day on Saturday evening at the Parker House." His life nearly spans the century, and it is gratifying to see such useful men honored and respected in all parts of our country.

CONTAGIOUS DISEASES OF DOMESTICATED ANIMALS, FROM THE DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C.

The Department has issued no book of greater importance than this. Its investigations seem to be complete, and cover the whole country. It should be in the hands of all cattle breeders and dealers.

REPORT OF THE CONDITION OF CROPS FOR SEPTEMBER, BY THE DEPARTMENT OF AGRICULTURE AT WASHINGTON.

For Virginia the Report is as follows: Corn, 70; wheat, 98; rye, 98; oats, 84; buck-wheat, 70; potatoes, 86; tobacco, 65; cotton, 72; sorghum, 80; apples, 80; peaches, 85; grapes, 96; hogs, 97.

ABSTRACT OF THE MINUTES OF THE MEETING OF THE NATIONAL FERTILIZER ASSOCIATION, August 29, 1883.

We are indebted to our friend, JOHN OTT, of this city, for this pamphlet.

EVERY SATURDAY is again on our table after a temporary absence. It is an excellent weekly and family paper. Its energetic city editor, R. G. AGEE, is always on the path for news and whatever will contribute to the value of his publication. Price, $2.60 per annum.

COMMISSIONER LORING'S CIRCULAR gives notice that a convention will be held at *Chicago* on the 15th and 16th of November, instant, "for conference concerning contagious diseases among our domestic animals," and reports and addresses will be made and delivered on various aspects of the question.

"Agricultural, live stock, and dairy associations are invited to send representatives, and all persons interested in breeding, rearing, transporting, importing, or exporting any class of farm animals will be welcomed to the Convention."

N. W. Ayer & Son's American Newspaper Annual for 1883.

We have received this book, which contains about 800 pages, and is neatly and substantially bound. It is a complete compendium of all the daily and weekly newspapers of the United States and Canadian Provinces, as well as the monthly and other publications. It has also much statistical information in respect to every county in the United States, as also of the cities and towns. Price, $3. Address N. W. Ayer & Son, *Times* Building, Philadelphia.

Complimentary Tickets Received.—We extend our thanks to the Piedmont Agricultural Society, omitted in our last issue; the Southern Exhibition at Louisville, Ky.; the North Carolina State Society, and the Scott Tobacco Association, Georgetown, Ky., for complimentary invitations to attend their respective Fairs.

Catalogues Received.—*Pedigree Blackberry*, originated and grown by William Parry, Parry P. O., New Jersey.

Strawberries, Raspberries and other Small Fruits. Grapes, &c, by William Parry, Parry P. O., New Jersey.

Small Fruits a Specialty, by John S. Collins, Moorestown, New Jersey.

NEW ADVERTISEMENTS.

John E. Doherty, Merchant Tailor, 822 east Main street, renews his advertisement for a year. In a former issue we spoke frankly, and we are sure knowingly, after fifteen years dealing with him. As a merchant tailor, no man, or firm in the South or as we may say, elsewhere exceeds him in the quality of his goods, in proportionate cheapness, and satisfactory fitting of the clothing furnished. His stock of cloths, and cassimeres is well selected, and is not excelled if equaled by any establishment in his line, South or North.

Wooldridge, Travers & Co., renew for one year their advertisement of *Orchilla Guano*. This guano is shipped here from the Orchilla Islands in bulk, and is unmanipulated after arrival, except so far as sieving, and probably some drying are necessary to fit it for bagging and use. It is very rich in the phosphates, and peculiarly adapted to the grain and grass crops. The reported results, of which we have seen many, places it very high among the best fertilizers now used. Address Messrs. W. T. & Co. Baltimore, Md., or Capt. C. G. Snead, importer's agent, Richmond Va.

Frederick A. Osborn advertises pleasure carriages of all kinds. Mr. O. is a son of an old friend of ours who did a similar business here long before the Confederate war under the firm of Osborn & Hitchcock. The first family-carriage we ever used was purchased of him, and its style and finished workmanship led to many other purchases in our portion of the State.

The son who has now established a new business in our city, is doubtless a "chip of the old block," and, as such, we can, and do, cheerfully recommend him.

Joseph M. Blair, family grocer. In July last Mr. Blair moved into one of the elegant stores of the Pace Block, and seems to be doing a thriving business; and this he deserves to do, if energy, courtesy, and capacity in himself and all his employees have any claims on the public. It is unnecessary to say that his goods are well selected and of the best quality. Family tea, a coveted article generally, is one of his specialties.

As we do not drink tea, coffee being our favorite, we cannot bear personal testimony but we do, now and then, take a bottle of *Blair's Own* whiskey which is "number one."

G. Percy Hawes. This is a man *little* in stature but *big* in energy, integrity and enterprise. Less than sixty days ago his machine shops were entirely destroyed by fire, but they are now rebuilt and supplied with the best machinery and appliances for his business.

Whoever wants saws of any kind, from the largest circular to the smallest keyhole or old saws repaired, or edged tools for any purpose, should apply to this establishment.

Habliston & Brother, have been dealers in and manufacturers of, furniture for more

than *forty years* in this city. There is no establishment which excels them in the extent, variety, beauty and fitness of the stock which they always carry. It is scarcely possible for one to go into their ware-rooms and leave without finding what is wanted, and at satisfactory prices. And besides this no business-men have a higher personal standing for just and fair dealings.

Berkshire Hogs. See E. L. HOFFMAN'S advertisement.

Monarch Lightning Sawing Machine, by C. H. Fuller Chicago Illinois.

J. S. COLLINS MOORESTOWN N. J., advertises pear trees through N. W. Ayer & Son. Philadelphia.

Photo-Copying Agents, through G. P. Rowell & Co., Cincinnati, O.

ADVERTISEMENTS DROPPED

1. Angelo Pearl Painting, by the *Angelo Portrait Company*, Detroit, Michigan.
2. *Money can be made & c.*, from the Empire Manufacturing Company, Brooklyn, E. D., N. Y.

Bills have been repeatedly rendered in the case of each of these advertisements, and replies urged, but we hear nothing. This conduct is suspicious, and we therefore drop them from our columns, and warn our associates of the press that *advance* payments should be demanded of these parties —a precaution we overlooked. Beware of them!

THREE years ago St. Julian, the great California trotter, was unknown; the same may be said of Kendall's Spavin Cure. Now both have a world wide reputation. Why? Because they both have merit. One is a great trotter, the other is the most successful remedy ever discovered to be used on man or beast. Read advt.

Rheumatism is the most terrible disease that has ever afflicted humanity, yet it instantly yields to the powerful drugs that Kendall's Spavin Cure is composed of. Read advt.

GET IT, SURE! Wells' "Rough on Rats" Almanac, at druggists, or mail for 2c. stamp. E. S. Wells, Jersey City.

HEALTHFULNESS can be preserved in malarial districts by the powerful tonic and alterative effect of a daily dose of Simmons Liver Regulator, the true malarial antidote.

BOOKS!

The largest assortment of books (new and old) in all the **Departments of Literature** (Agricultural Works a specialty) in the Southern States is at 1302 and 1304 Main street, Richmond, Va.

J. W. RANDOLPH & ENGLISH,
oct 2t

Are you DEAF?

FERRIS' RESTORATIVE will INVARIABLY CURE YOU. It is endorsed by all home and foreign physicians and scientists. It cures where all other means fail. Don't neglect to send for circulars; it will pay you. ASK YOUR DRUGGIST FOR IT. EDWIN FERRIS & CO., Piker Building, Cincinnati, O. jaly

Premium Chester White, Berkshire and Poland China Pigs, Fine Setter Dogs, Scotch Shepherds and Fox Hounds, bred and for sale by ALEX. PEOPLES, West Chester, Chester county, Pa. Send stamp for circular and price-list. fe 1y

DR. HENRY FRŒHLING,
ANALYTICAL & CONSULTING CHEMIST

Laboratory: 17 South Twelfth Street,
RICHMOND, VA.

BELMONT

Stock & Stud Farm.

I continue to breed Thoroughbred, Riding, Trotting, Light and Heavy Draft Horses. The best families of Shorthorn Cattle and Berkshire Swine for sale at prices and terms to induce sales without jockeying. Those stallions not sold early in the year may be farmed on sound business terms to suit clubs, individuals and patrons.

S. W. FICKLIN,
jan Near Charlottesville, Va.

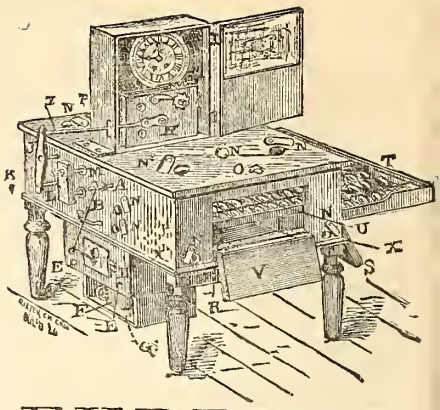
We will send you a watch or a chain **BY MAIL OR EXPRESS**, C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. EVERY WATCH WARRANTED. ADDRESS **STANDARD AMERICAN WATCH CO.**, PITTSBURGH, PA.

oct 1y

MORISON'S PILLS

A remarkable remedy for Stomach, Liver, Kidney or Bladder Disorders, Jaundice, Chills, Malaria, Sick Headache, Indigestion and Costiveness.

Mailed free to any address upon receipt of price, $1. W. S. PILCHER, Agent,
Broad and Pine streets,
au12t RICHMOND, VA.



EUREKA!

Is the Standard Incubator the world over. Made by J. L. CAMPBELL, West Elizabeth, Allegheny Co., Penn. jely

BEST MARKET PEAR.

99,999 PEACH TREES All *best varieties* of new and old Strawberries, Currants, Grapes, Raspberries, etc.

EARLY CLUSTER

New Blackberry, early, hardy, good. Single hill yielded 13 quarts at one picking. Send for free Catalogue.
J. S. COLLINS, Moorestown, N. J.
sep 7t

HOME INDUSTRY!

DIXIE SHIRTS!
"ACME" DRAWERS

FINE DRESS SHIRTS a specialty.

UNDERWEAR of all kinds ready made or to measure at short notice. Write for prices and printed blanks for self-measurement. We employ the most experienced cutters and skilled operators. We use the most improved steam machinery in our factory.

We guarantee the quality and fit of every garment that goes from our factory. Correspondence solicited.

H. T. MILLER & CO.,

MANUFACTURERS,

Cor. Ninth and Main Sts., Richmond, Va.
[oct 1y]

BERKSHIRES. Registered stock, Sows in farrow, and Pigs of all ages. E. L. HOFFMAN, Bunker Hill, W. Va.
nov 3t

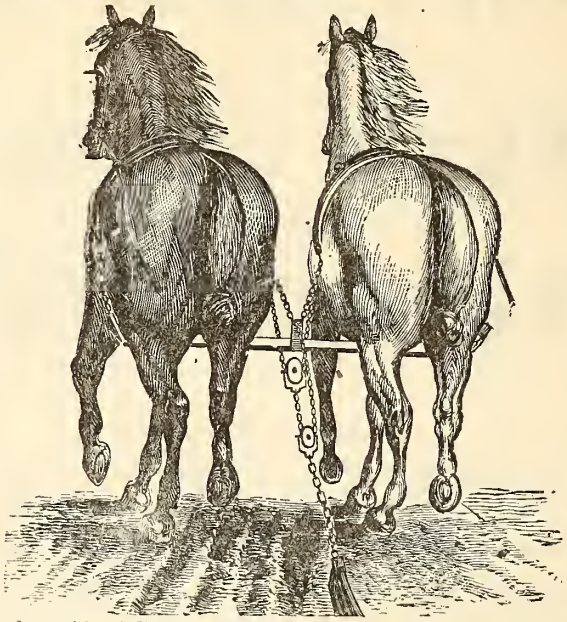
NEW DEPARTURE!

Coleman's Patent Harness

(Patented April 2, 1878.)

L. H. FINNEY, Manufacturer and Proprietor of the Patent Right for North Carolina.
JAMES H. BRANCH, General Sales Agent.

SAVES HARNESS! SAVES TRACES! SAVES GROUND!



SAVES TIME! SAVES MONEY! SAVES LABOR!

More work can be done with this Harness than any other, and with greater ease to the team, as it permits them to be placed nearer the load, thereby requiring less power to move it. There being no whiffletrees or traces to load down the plow-beam, no counter-balancing pressure on the handles is required. This prevents friction on the bottom of the plow, and causes it to run much lighter. It touches the team only on the shoulders, rendering it impossible to chafe on the sides, legs, &c. Its durability, simplicity, and scientific perfection is unequaled. Orchards can be ploughed without bruising the trees. Ploughing among stumps becomes easy. For Gins, Threshers, Lead of Wagons, Horse Cars, &c., it can be used to advantage.

CERTIFICATES.

POWHATAN Co., VA., Oct. 11th, 1883.

MR. L. H. FINNEY:

Dear Sir,—I have thoroughly tried the Patent Harness you are selling, and it affords me much pleasure to say that it will do all you claimed for it. I cannot now mention its many advantages over the "old way," but will give it as my opinion that any farmer who will give it five minutes' trial will be convinced that he cannot afford to be without it.

Yours truly, M. W. HANCOCK.

POWHATAN Co., VA., Oct. 10th, 1883.

MR. L. H. FINNEY:

Dear Sir,—Having tested, by trial, the merits of your Harness, I unhesitatingly recommend it to every farmer who has two or more horses. It has only to be tried to be appreciated. Am satisfied you are not asking too much for it, since I would pay double the price asked rather than farm without it.

Yours, &c., G. B. HANCOCK.

HENRICO Co., VA., Sept. 28, 1883.

JOHN TRIBBLE, General Sales Agent:

Dear Sir,—It is with pleasure I certify to the merits of Coleman's Harness. I find a great decrease of draft and chaffing of teams, also less wear on the point of the plow. Have given it a fair trial for two weeks, and if I could not replace them would not take double what I gave for them. The draft being equally distributed, prevents bruising or galling of shoulders. I bought six sets.

Respectfully, W. T. RATCLIFFE.

BELMEAD, POWHATAN Co., VA., Oct 4, 1883.

L. H. FINNEY, ESQ.:

Dear Sir,—I have carefully tried the Patent Harness to the plow and wagon, and am very favorably impressed with it. It is very valuable for plowing ditch banks, near fences, in orchards, &c., as well as to the lead of a wagon in woods or other places, and in turning at the ends of lands it is very preferable to the whiffletrees and traces. It does not scar and rub the team, as is often the case with the old gear. In taking up or lengthening the main chain, it has a great advantage over the old way, as it can be done instantly. I now have two sets and shall want three more.

Yours, very truly,
RICHARD MEECH.

CHARLESTON, S. C., April 18, 1881.

I have used Coleman's Patent Harness all the winter on my mules, ginning at my plantation in Orangeburg county, and the more I use it the better I like it. Two mules with this harness work my Gin with as much ease as three did with the ordinary harness, and with much more comfort, as it does not rub nor chafe them at all. I have also used it to my double plow, and cannot imagine anything equal to it. It is certainly the greatest improvement in the harness line I have ever seen.

PAUL S. FELDER,
Agent of the State Grange of So. Ca.

Automatic Gate Latch.

The watchwords of success and the leading features of this popular latch are—

1st. SIMPLICITY—because of the ABSENCE of PULLEYS, WIRES, SPRINGS, or other attachments liable to get out of order.

2d. DURABILITY—since it is made of MALLEABLE iron.

3d. EASE OF MOVEMENT—to fully understand which, it is only to be contrasted with the worry and annoyance due to an effort to disengage a WOODEN latch made tight either by the "swelling" of the wet timber, or the sagging of the gate, or both. (A five-year child CAN ALWAYS UNLOCK THIS LATCH.)

4th. UNIVERSAL ADAPTIVENESS to EITHER side of ANY gate, and to the SAGGING of the gate.

5th. SECURITY against STOCK DEPREDATION, which is ABSOLUTE AND POSITIVE when instructions are followed.

6th. CERTAINTY OF LOCKING—this is the combined result of its automatic action together with the ABSENCE OF FRICTION and the protection against the freezing up of the catch-plate.

7th. CHEAPNESS, which is estimated upon the basis of the foregoing claims; all of which have been sustained wherever used.

☞ A liberal discount on all sales of *four* and *over*.

Especially remunerative terms to **Agents.**

READ THE FOLLOWING:

Dear Sirs,—Please find check for the five Automatic Gate Latches. I have now had some of them in use on my farm for three or four weeks, and am very much pleased with them. In my opinion they are *everything you claim for them.* I don't think they can be improved upon. It seems to me to be a *perfect* gate latch. (Signed)

Boydton, Va. June 25, 1883. GEO. B. FINCH.

I have two of your Automatic Gate Latches in use. They are doing well. Their *cheapness* and *simplicity* ought to do away with most others in use. (Signed), S. W. FICKLIN.

Belmont, Va., Sept. 6th, 1883.

For Circular and Price-List, address

AUTOMATIC GATE LATCH COMPANY,

oct 3t 1422 Main St., Richmond, Va.

C. M. MILLER,

408 E. Marshall Street, RICHMOND, VA.

All kinds of SEWING MACHINERY repaired. Needles and Attachments, &c., for sale. oct 3t

---

ROBERTS, DURNALL & HICKS,

STOCK FARMS

Near WEST CHESTER, Chester Co., Pa.

Dutch Friesian Cattle AND NORMAN PERCHERON HORSES

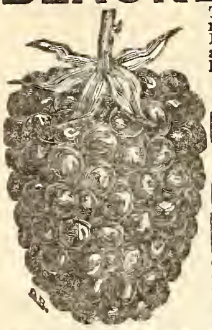
Desire to call the attention of gentlemen and dealers to their stock as above, confident that they have as fine lots as have been brought to this country, all having been selected by a member of our firm in person, who visited the best herds in Holland; and under the guidance of one of the most experienced horsemen in France made selections from the best horses in Normandy. Write for Catalogue and any information to

JOHN H. HICKS, Box 684, West Chester, Pa.

oct 3t

• WILSON JUNIOR PEDIGREE •

BLACKBERRY



The **largest, best** and most productive Early Blackberry, 3¾ inches around, from seed of selected **Wilson's Early.**

KIEFFER HYBRID PEAR TREES

100,000 PEACH TREES

Strawberries, Raspberries, Grapes, &c., &c.

Catalogue with Colored Plates **FREE**

WM. PARRY,

PARRY P. O., N. J.

BERKSHIRE AND JERSEY RED

Pigs & Hogs

FOR SALE!

Berkshire Pigs, two months old, $4. Berkshire Sows. with pigs by Jersey Boar, weighing from 100 to 250 pounds, 10c. per pound, nett, delivered on the cars.

C. R CULLEN,

au 4t 1305 Main St., Richmond, Va.

GRAPE VINES

FOR SALE!

Two years old and well rooted. Very low. Address EMIL F. HENKENIUS, Bumpass, Louisa Co., Va. sep 3t

---

Dr GEORGE B. STEEL,

DENTIST,

723 Main Street, Richmond, Va.

CHAS. L. STEEL, M. D., D. D. S., Assistant.

oct 1t

Cut This Out & Return to us with TEN CTS. & you'll get by mail A GOLDEN BOX OF GOODS that will bring you in MORE MONEY, in One Month, than anything else in America. Absolute Certainty. Need no capital. M. Young, 173 Greenwich St. N. York.

oct 6t

C. F. JOHNSTON,

Music and Music Dealer

918 Main Street, RICHMOND, VA.

Pianos, Organs, and Musical Instruments of all kinds.

Books, Stationery, Sheet Music, &c., &c. Subscriptions received to all publications at office rates. Send for Catalogue of 5-cent Music. oct 1t

VIRGINIA

Agricultural & Mechanical

College Farm,

BLACKSBURG, VIRGINIA.

Shorthorn Bull Calves For Sale—pedigree guaranteed—price, $75.00.

Southdown Buck Lambs For Sale—pure blood—price, $15.00.

Berkshire and Jersey Red Pigs For Sale—pure blood—price, $10 a pair.

China Geese, - - -	$ 5 00	a pair.
Pekin Ducks, - -	3 00	per trio.
Bronze Turkeys, - -	10 00	"
Plymouth Rock Chickens,	3 00	"
Pure Game Chickens, -	5 00	"
English Dorking Chickens,	3 00	"

Address,

THOS. N. CONRAD.

oct 3t Blacksburg. Va.

FREE. FREE.

SAMPLE COPIES

OF THE

"SOUTH AND WEST"

The Leading Agricultural Paper of the Mississippi Valley. A Journal which should be in every family.

ONLY FIFTY CENTS A YEAR.

TO CLUB RAISERS.

Send for our special offer to workers. The most liberal and satisfactory offer ever made for getting subscribers.

Address "SOUTH & WEST,

oct tf St. Louis, Mo.

"THE BEST IS THE CHEAPEST."

SAW MILLS, ENGINES THRESHERS, HORSE POWERS,

(For all sections and purposes.) Write for Free Pamphlet and Prices to The Aultman & Taylor Co., Mansfield, Ohio.

nov 12t

nov 3t

G. W. JONES,

DENTIST,

OFFICE: No. 807 FRANKLIN ST., BET. EIGHTH AND NINTH.

Elegant rooms; uses best materials; gentle, quick and thorough work; long experience, and prices reduced. Uses gas and chloroform in extracting teeth.

nov 1y

REST not, life is sweeping by, go and dare before you die, something mighty and sublime leave behind to conquer time. $66 a week in your own town. $5 outfit free. No risk. Everything new. Capital not required. We will furnish you everything. Many are making fortunes. Ladies make as much as men, and boys and girls make great pay. Reader, if you want business at which you can make great pay all the time, write for particulars to H. HALLETT & Co., Portland, Maine. jan1y

A. T. BURR'S

STANDARD

CARRIAGE REPOSITORY

1505 FRANKLIN STREET.

Custom-made work. Buggies, Phætons, Carriages and Farm Wagons at wholesale factory prices. All work warranted. ap 1y

F. Stearns' No. 1 Fertilizer

TO THE FARMERS OF VIRGINIA:

Gentlemen,—We continue to manufacture this SUPERIOR FERTILIZER, composed of PURE BONE MEAL (partially dissolved) combined with FISH GUANO, ANIMAL MATTER, and POTASH (muriate).

We grind the bone and fish ourselves, and can vouch for its purity. Nothing can be better for TOBACCO and ALL SPRING CROPS, as testified to by the best farmers in Virginia, who have used it. Price, $40 per ton on board cars in Richmond.

Our PURE BONE MEAL, ground fine, on hand, and for sale at the same price.

Send in your orders at an early day, as our stock will be limited, Address

STEARNS & HALSEY,

No. 15 Fifteenth street, Richmond, Va.

FRANKLIN STEARNS,
J. MORTON HALSEY,

sep tf

422 BROAD STREET. 422

NEW STORE—NEW GOODS!

J. M. WERTHEIMER

422 BROAD STREET, BETWEEN FOURTH AND FIFTH STREETS,

(opposite Fourqurean, Price, Temple & Co.

Having withdrawn from the firm of Heller & Co., 517 Broad street, I inform my friends and the public in general that I have established myself at above place, where I shall commence with an entire new stock of BOOTS, SHOES, TRUNKS, &c, and shall only keep such goods as will give entire satisfaction.

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The *most successful remedy* ever discovered, as it is certain in its effects, and does not blister. Also excellent for human flesh. Read proof below:

[From the Akron COMMERCIAL, Ohio, of November 25th, 1882.]

Readers of the *Commercial* cannot well forget that a large space has for years been taken up by Kendall's advertisements—especially of a certain Spavin Cure. We have had dealings with Dr. Kendall for many years, and we know of some large business houses in cities near by, who have also dealt with him for many years, and the truth is fully and faithfully proven, not only that he is a good honest man, and that his celebrated Spavin Cure is not only all that it is recommended to be, but that the English language is not capable of recommending it too highly.

Kendall's Spavin Cure will cure spavins. There are hundreds of cases in which that has been proven to our certain knowledge, but, after all, if any person confines the usefulness of this celebrated medicine to curing spavins alone, they make a big mistake. It is the best medicine known as an outward application for rheumatism in the human family. It is good for pains and aches, swellings and lameness, and is just as safely applied to men, women and children as it is to horses. We know that there are other good liniments, but we do believe this Spavin Cure to be far better than any ever invented.

Send address for Illustrated Circular which, we think, gives positive proof of its virtues. No remedy has ever met with such unqualified success to our knowledge, for beasts as well as man.

Price, $1 per bottle, or six bottles. All druggists have or can get it for you, or it will be sent to any address, on receipt of price, by the proprietors.

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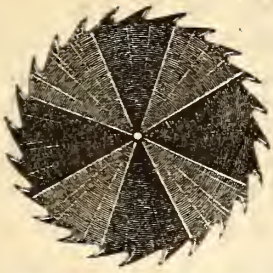

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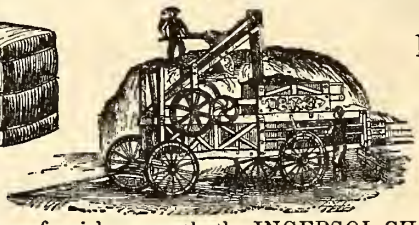

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We also keep in stock and can furnish promptly the INGERSOL CHAIN AND BAR PRESSES.

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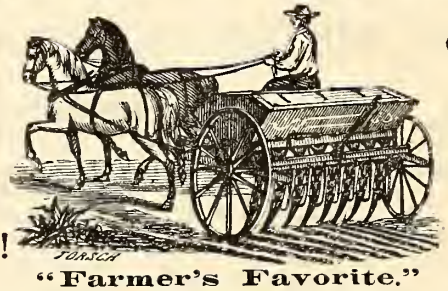
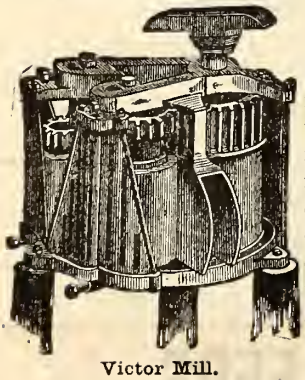


Sows perfectly CORN, PEAS, **Small Grain,** CLOVER, and other GRASS SEEDS!

"Farmer's Favorite."

Money and time saved by the use of a good Drill. It wastes no fertilizer, but puts it with the grain. It puts the grain regular, and covers it nicely. Send your order in early and get the best.

Cane Mills and Evaporators.



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This Cane Machinery is found to be the best; gets most molasses from a given quantity of cane and requires less power than any other.

MOST POPULAR.

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STEAM ENGINES, SAW MILLS AND GRIST MILLS.

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BEST AND CHEAPEST!

We wish to call your attention to the merits of ORCHILLA GUANO as the most wonderful grain and grass producer and real improver of the soil ever offered to the farmers of Virginia, which fact is not only substantiated by the best chemists in the country, but by thousands of the best and most reliable farmers in Maryland, Pennsylvania and Virginia, who have been using it for the last twelve or fifteen years, and who testify to the fact that it is not only a powerful crop producer, but its effects are seen for four or five years by a single application.

This guano is found in the Orchilla Island, in the Carribbean Sea, and comes to us direct by vessels, and all we do to it on arrival is to screen out the lumps and bag it. Every cargo is analyzed before leaving the Island, and comes guaranteed to us to contain from 40 to 50 per cent. of Bone Phosphate of Lime, and other valuable ingredients.

THE CHEMISTS ENDORSE IT.

The Department of Agriculture of the State of Virginia, under the administration of Dr. J. M. Blanton, have recently undertaken the analysis of every brand of Fertilizer, sold in the State. The Report of the work done in that respect, by Prof. W. I. Gascoyne, the well-known Chemist of the Department, during the Fall Season of 1882, has just been published. It embraces the analysis of *seventy-five* different brands of Fertilizers, and certifies to the *actual value* of their several constituents as developed by the analysis. A reference to this Report exhibits the following remarkable results:

1. The actual value of most of these Fertilizers falls *below* the prices asked for them!
2. Where the actnal valne exceeds the price asked, the excess, in very few instances, reaches 10 per cent.
3. In the case of ORCHILLA GUANO, the certificate of the chemist is "**Actual value $41.12,**" which is *more than* 50 *per cent.* over the price asked for it!

This official statement is only corroborative of similar results, furnished us privately by other chemists of high reputation in Virginia and elsewhere; notably Prof. Mallet, Dr. Dabney, Prof. Taylor and others. According to Dr. Dabney, the cash value of the sample analyzed by him, was $43.97. Prof. Taylor's, by the same calculation, was $44.32.

We are permitted to copy a portion of a private letter from Prof. JOHN R. PAGE, of the University of Virginia, as to practical results:

University of Virginia, January 23, 1883.

* * * * * I have used Orchilla Guano very successfully on root crops, as yon might expect from its high percentage of Phosphoric Acid. * * * I repeat what I have said repeatedly, that high-priced ammoniated fertilizers cannot be nsed in a large majority of the worn-out lands in Virginia profitably, until those lands have been prepared by drainage, thorough tillage—the use of *lime compounds* and vegetable matter ploughed into the soil. Until the land is prepared thus, there is nothing to hold the nitric acid and ammonia in the soil, and it is carried off by the drainage and atmosphere before the crop can use it, which often results in no profit and no permanent improvement to the land. I have nsed the Orchilla Guano this fall on wheat. * * *

Yours, &c., John R. Page.

Send for onr LITTLE BOOK containing the letters of scores of Virginia farmers, bearing testimony to the fact, that the **Lime Compound** which has done them the best service, is ORCHILLA GUANO, with its 40 to 50 per cent. of Bone Phosphate of Lime.

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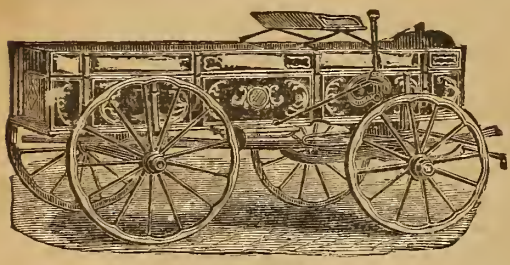

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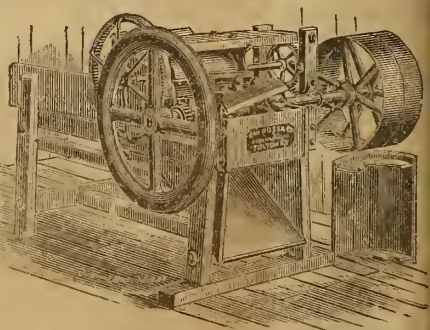

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SOUTHERN PLANTER (1882)

Vol. 44
July- Dec. 1883

Missing: no. 12


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